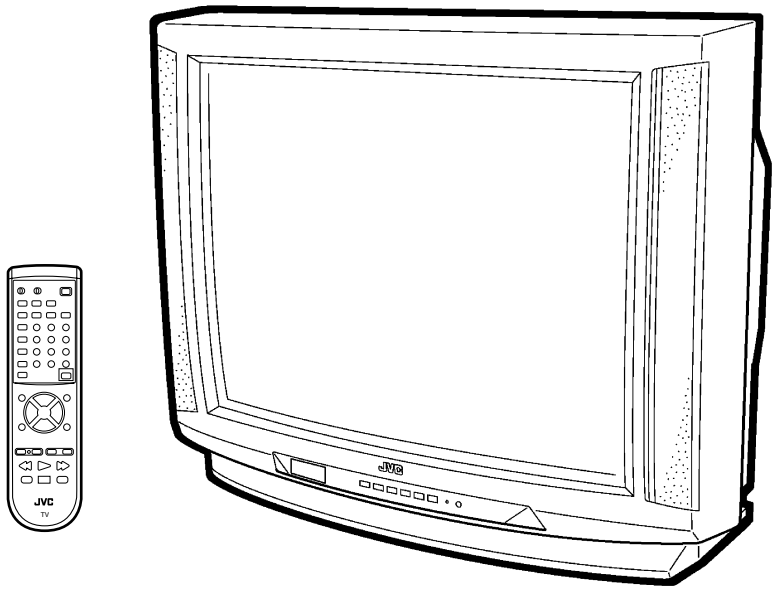
JVC

SERVICE MANUAL

COLOR TELEVISION

BASIC CHASSIS
AC

AV-27D502 /R
AV-27D502 /S



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SPECIFICATIONS

Items	Contents
Dimensions (W × H × D)	29-5/8" × 23-1/4" × 19-1/2" / 75.2cm × 59.1cm × 49.4cm
Mass	71.3 lbs/32.4kg
TV RF System	CCIR(M)
Color Sound System	NTSC, BTSC System (Multi Channel Sound)
TV Receiving Channels and Frequency	
VL Band	(02~06) 54MHz~88MHz
VH Band	(07~13) 174MHz~216MHz
UHF Band	(14~69) 470MHz~806MHz
CATV Receiving Channels and Frequency	
Low Band	(02~06, A-8) by (02~06&01)
High Band	(07~13) by (07~13)
Mid Band	(A~1) by (14~22)
Super Band	(J~W) by (23~36) (54MHz~804MHz)
Hyper Band	(W+1~W+28) by (37~64)
Ultra Band	(W+29~W+84) by (65~125)
Sub Mid Band	(A8, A4~A1) by (01, 96~99)
TV/CATV Total Channel	180 Channels
Intermediate Frequency	
Video IF Carrier	45.75MHz
Sound IF Carrier	41.25MHz (4.5MHz)
Color Sub Carrier	3.58MHz
Power Input	120V AC, 60Hz
Power Consumption	123W
Picture Tube	27" (68cm) Measured Diagonally
High Voltage	29kV±1.3kV (at zero beam current)
Speaker	2" × 4-3/4" / 5 × 12cm Oval type × 2
Audio Power Output	5W × 2
Video / Audio Input (1 / 2 / 3)	Video(1,3) : 1Vp-p, 75Ω (RCA pin jack) Audio(1,2,3) : 500mVrms (-4dBs), High Impedance (RCA pin jack) S-Video (Input 1 / 2 Over) Y : 1Vp-p Positive (negative sync provided, when terminated with 75Ω) C : 0.286Vp-p (burst signal, when terminated with 75Ω) Component Input (Input 2) Y : 1Vp-p positive (negative sync provided, when terminated with 75Ω) P_B/P_R : 0.7Vp-p 75 Ω
Audio Output (Variable)	Variable : More then 0~1550mVrms (+6dBs) Low impedance (400Hz when modulated 100%) (RCA pin jack)
AV Compu link EX Input	3.5mm mini jack
Antenna terminal	75Ω(VHF/UHF) Terminal, F-Type Connector
Remote Control Unit	RM-C301G-2A (AA/R6/UM-3 battery × 2)

Design & specifications are subject to change without notice.

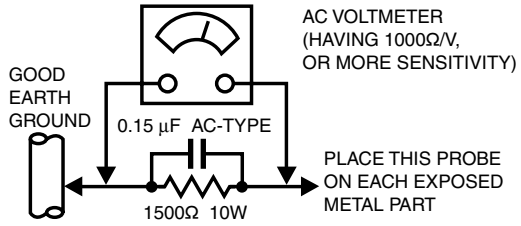
SAFETY PRECAUTIONS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (⚠) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
4. **Use isolation transformer when hot chassis.**
   The chassis and any sub-chassis contained in some products are connected to one side of the AC power line. An isolation transformer of adequate capacity should be inserted between the product and the AC power supply point while performing any service on some products when the HOT chassis is exposed.
5. **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**
   Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED(NEUTRAL) : (⏚) side GND and EARTH : (⏚) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.
   If above note will not be kept, a fuse or any parts will be broken.
6. If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
7. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
8. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.
9. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.
10. **Isolation Check**
    (Safety for Electrical Shock Hazard)
    After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

(1) **Dielectric Strength Test**
The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 1100V AC (r.m.s.) for a period of one second.
(. . . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)
This method of test requires a test equipment not generally found in the service trade.

(2) **Leakage Current Check**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

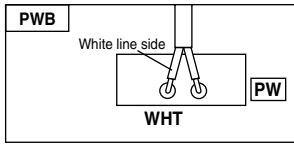
● **Alternate Check Method**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15µF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



11. **High voltage hold down circuit check.**
    After repair of the high voltage hold down circuit, this circuit shall be checked to operate correctly.
    See item **"How to check the high voltage hold down circuit".**

This mark shows a fast operating fuse, the letters indicated below show the rating.

POWER CORD
REPLACEMENT WARNING
Connecting thr white line side of power cord to "WHT" character side.



REPLACEMENT OF CHIP COMPONENT

■ CAUTIONS

1. Avoid heating for more than 3 seconds.
2. Do not rub the electrodes and the resist parts of the pattern.
3. When removing a chip part, melt the solder adequately.
4. Do not reuse a chip part after removing it.

■ SOLDERING IRON

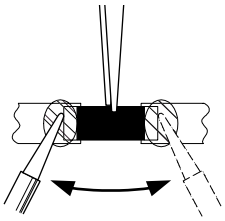
1. Use a high insulation soldering iron with a thin pointed end of it.
2. A 30w soldering iron is recommended for easily removing parts.

■ REPLACEMENT STEPS

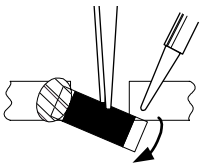
1. How to remove Chip parts

◆ Resistors, capacitors, etc.

(1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.

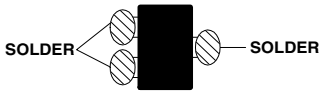


(2) Shift with tweezers and remove the chip part.

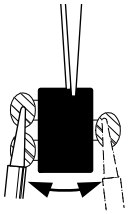


◆ Transistors, diodes, variable resistors, etc.

(1) Apply extra solder to each lead.



(2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.

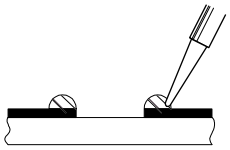


Note : After removing the part, remove remaining solder from the pattern.

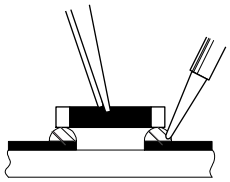
2. How to install Chip parts

◆ Resistors, capacitors, etc.

(1) Apply solder to the pattern as indicated in the figure.

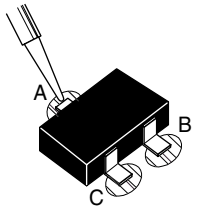


(2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

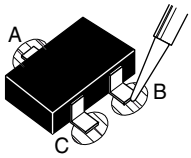


◆ Transistors, diodes, variable resistors, etc.

(1) Apply solder to the pattern as indicated in the figure.
(2) Grasp the chip part with tweezers and place it on the solder.
(3) First solder lead **A** as indicated in the figure.



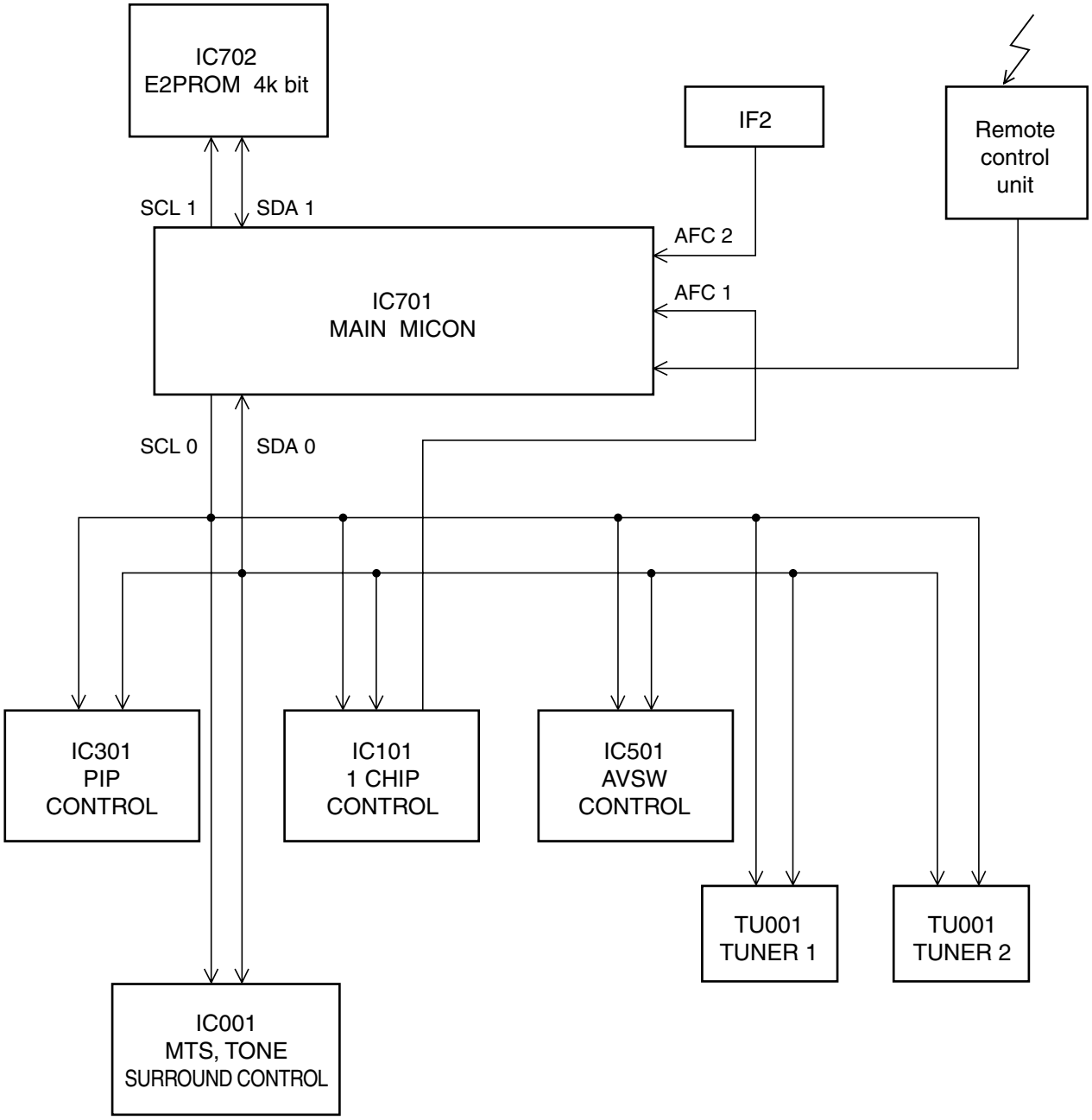
(4) Then solder leads **B** and **C**.



FEATURES

- Full-square CRT (cathode ray tube) reproduces fine textured picture in every detail.
- I^2C bus control utilizes single chip ICs.
- Built in Twin Tuner system.
- Built-in HYPER-SURROUND system.
- Built-in BBE.
- Adoption of the Picture-In-Picture (PIP) function.
- 3 LINE DIGITAL COMB FILTER circuit improved picture quality.
- Component input terminal for talking best advantage of Component Video Signal.
- Audio Video input terminal. (S-input ×2, V-input ×2)
- Variable audio output terminal.
- Closed-caption broadcasts can be viewed.
- With AV COMPU LINK EX terminal.

■ SYSTEM BLOCK DIAGRAM

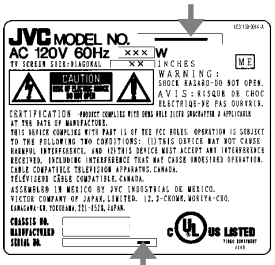
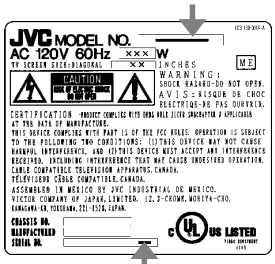


MAIN DIFFERENCE LIST

⚠	Model / Part name	AV-27D502/R	AV-27D502/S
	MAIN PWB	SAC-1507A-M2	SAC-1506A-M2
	CRT SOCKET PWB	SAC-3507A-M2	SAC-3506A-M2
⚠	PICTURE TUBE	A68ADT25X01	A68QDN891X001

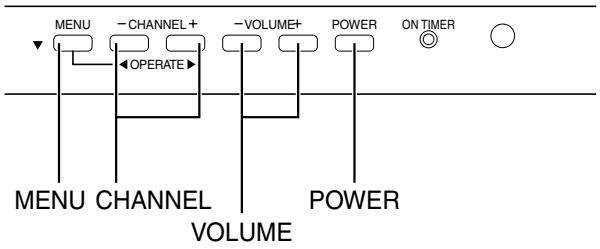
HOW TO IDENTIFY MODELS

The difference between **AV-27D502/R** and **AV-27D502/S** is in the PICTURE TUBE.
As the result of the difference in **PICTURE TUBE**, the **MAIN PWB** also differ.

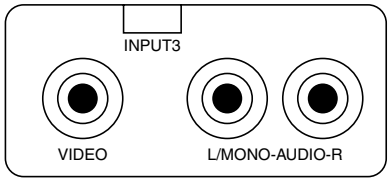
⚠	Model / Part name	AV-27D502/R	AV-27D502/S
⚠	RATING LABEL	LC31139-001A-A	←
		INDICATED AV-27D502  INDICATED **"R"**	INDICATED AV-27D502  INDICATED **"S"**

FUNCTIONS

■ FRONT PANEL

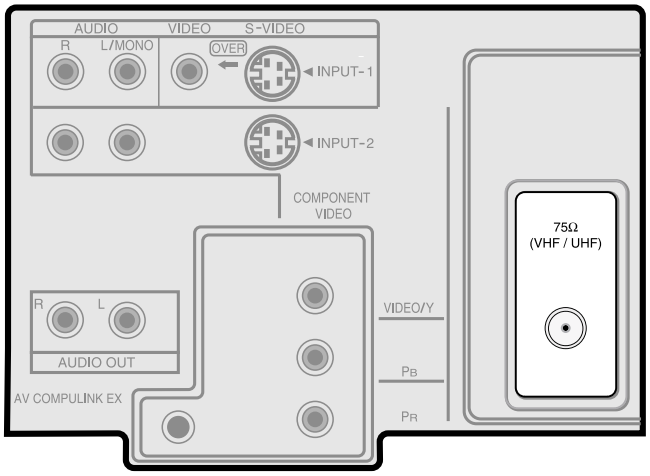


■ FRONT PANEL DOOR OPENED

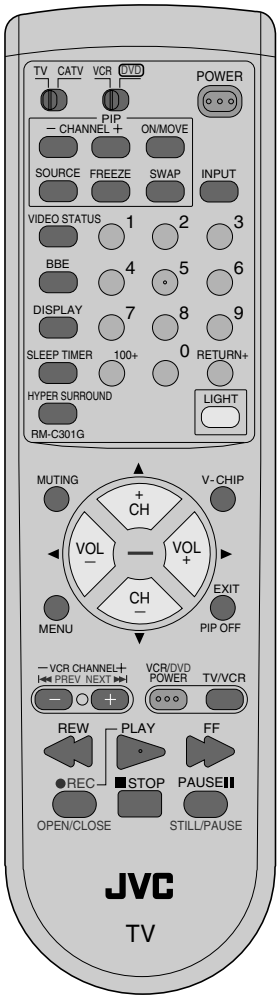


INPUT3 VIDEO/AUDIO TERMINAL

■ REAR PANEL



■ REMOTE CONTROL UNIT (RM-C301G-2A)



SPECIFIC SERVICE INSTRUCTIONS

DISASSEMBLY PROCEDURE

REMOVING THE REAR COVER

1. Unplug the power supply cord.
2. Remove the 12 screws marked Ⓐ as shown in Fig.1.
3. Withdraw the REAR COVER toward you.

[CAUTION]

- When reinstalling the rear cover, carefully push it inward after inserting the MAIN PWB into the rear cover groove.

REMOVING THE CHASSIS

- After removing the rear cover.

1. Slightly raise the both sides of the chassis by hand and remove the 3 claws marked Ⓑ under the chassis from the front cabinet as shown in Fig.1.
2. Withdraw the chassis backward along the rail in the arrow direction marked Ⓒ as shown in Fig.1.

   (If necessary, take off the wire clamp, connector's etc.)

   * When conducting a check with power supplied, be sure to confirm that the CRT earth wire is connected to the CRT SOCKET PWB and the MAIN PWB.

REMOVING THE TERMINAL BOARD

- After removing the rear cover.

1. Remove the 4 screws marked Ⓓ as shown in Fig.1.
2. When you pull out the TERMINAL BOARD in the direction of arrow marked Ⓔ as shown in Fig.1, it can be removed.

REMOVING THE FRONT CONTROL AND FRONT AV INPUT PW BOARDS

- After removing the rear cover and chassis.

1. Remove the 3 screws marked Ⓕ and the 2 screws marked Ⓙ as shown in Fig.1.
2. Then remove the FRONT CONTROL PWB and FRONT AV INPUT PWB.

   (If necessary, take off the wire, connector's etc.)

REMOVING THE LF PW BOARD

- After removing the rear cover and chassis.

1. Lift the left side of the LF PWB while pressing the 2 PWB stoppers marked Ⓖ in the arrow direction marked Ⓗ as shown in Fig.1.
2. Then remove the LF PWB.

   (If necessary, take off the wire, connector's etc.)

REMOVING THE SPEAKER

- After removing the rear cover.

1. Remove the 4 screws marked Ⓚ as shown in Fig.1.
2. Withdraw the speaker backward.
3. Follow the same steps when removing the other hand speaker.

CHECKING THE MAIN PW BOARD

1. To check the back side of the MAIN PW Board.
   1) Pull out the chassis. (Refer to REMOVING THE CHASSIS).
   2) Erect the chassis vertically so that you can easily check the back side of the MAIN PW Board.

[CAUTION]

- When erecting the chassis, be careful so that there will be no contacting with other PW Board.
- Before turning on power, make sure that the CRT earth wire and other connectors are properly connected.

WIRE CLAMPING AND CABLE TYING

1. Be sure clamp the wire.
2. Never remove the cable tie used for tying the wires together. Should it be inadvertently removed, be sure to tie the wires with a new cable tie.

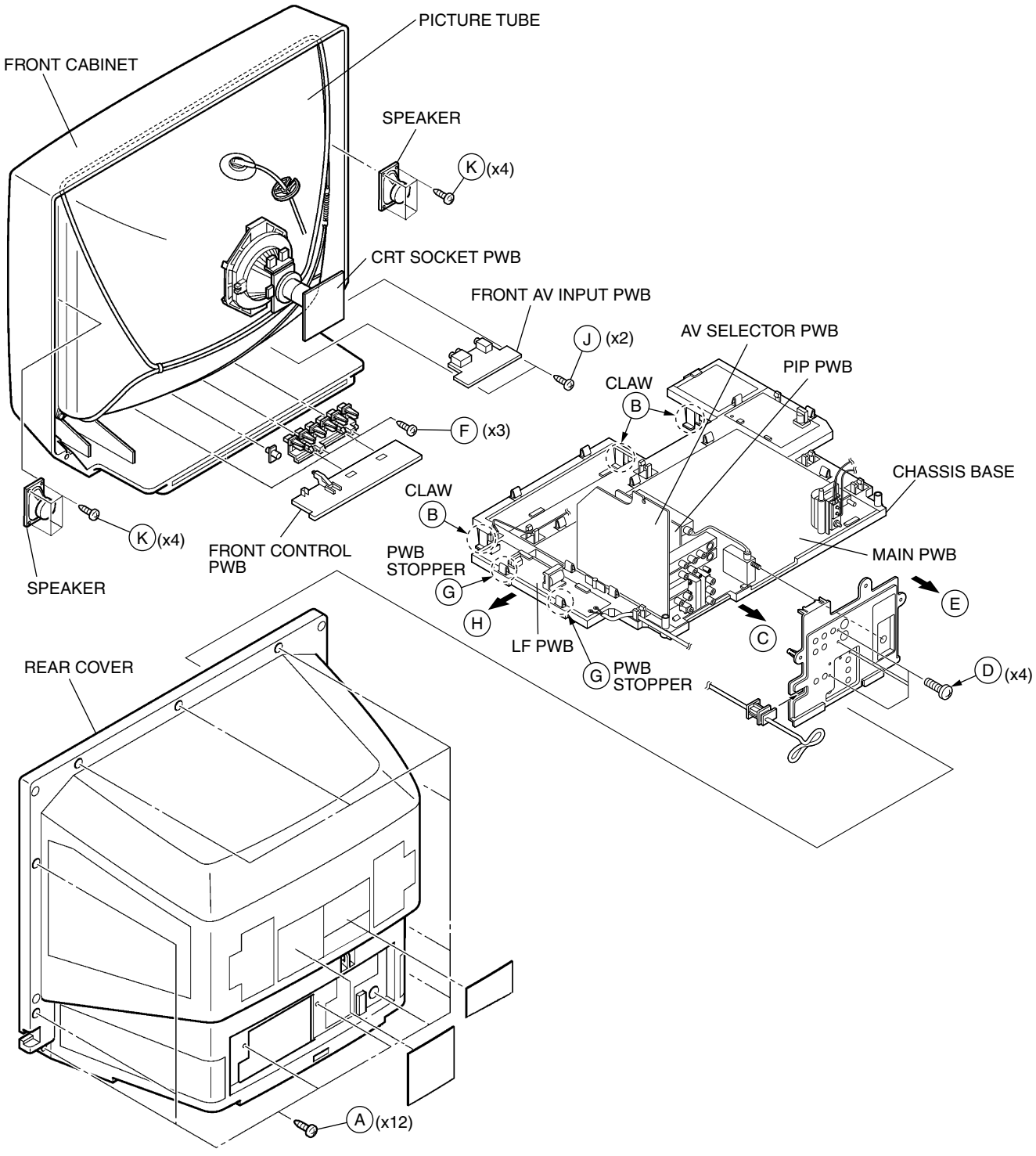

PICTURE TUBE
FRONT CABINET
SPEAKER
K (x4)
CRT SOCKET PWB
FRONT AV INPUT PWB
J (x2)
AV SELECTOR PWB
PIP PWB
CLAW
B
F (x3)
CHASSIS BASE
CLAW
B
K (x4)
FRONT CONTROL PWB
PWB STOPPER
MAIN PWB
SPEAKER
G
H
E
C
LF PWB
G
PWB STOPPER
D (x4)
REAR COVER
A (x12)

Fig.1

MEMORY IC REPLACEMENT

1. Memory IC

This model use a memory IC.
This memory IC stores data for proper operation of the video and deflection circuits.
When replacing, be sure to use an IC containing this (initial value) data.

2. Memory IC replacement procedure

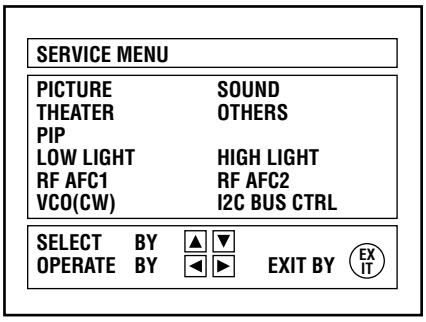
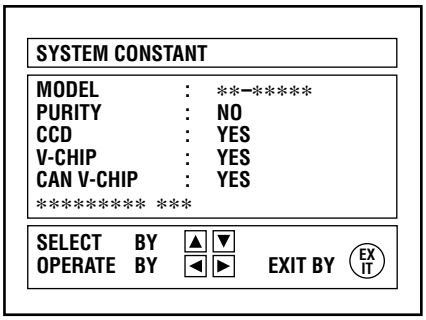
Procedure	Screen display
(1) Power off Switch off the power and disconnect the power cord from the outlet.	
(2) Replace the memory IC Initial value must be entered into the new IC.	
(3) Power on Connect the power cord to the outlet and switch on the power.	
(4) System constant check and setting 1) Press **SLEEP TIMER** key and, while the indication of "**SLEEP TIMER 0 MIN.**" is being displayed, press **DISPLAY** key and **VIDEO STATUS** key on the remote control unit simultaneously. 2) The SERVICE MENU screen of Fig.1 is displayed. 3) While the SERVICE MENU is displayed, again simultaneously press the DISPLAY and VIDEO STATUS keys to display the Fig.2 SYSTEM CONSTANT screen. 4) Refer to the SYSTEM CONSTANT table and check the setting items. Where these differ, select the setting item with the MENU UP/DOWN key and adjust the setting with the MENU LEFT/RIGHT keys. (The letters of the selected item are displayed in yellow.) 5) After adjusting, release the MENU LEFT/RIGHT key to store the setting value. 6) Press the EXIT key twice to return the normal screen.	 Fig.1  Fig.2
(5) Receive channel setting Refer to the OPERATING INSTRUCTIONS(USER'S GUIDE) and set the receive channels (Channels Preset) as described.	
(6) User settings Check the user setting items according to Table 2. Where these do not agree, refer to the OPERATING INSTRUCTIONS (USER'S GUIDE) and set the items as described.	
(7) SERVICE MENU setting Verify what to set in the SERVICE MENU, and set whatever is necessary.(Fig.1) Refer to the SERVICE ADJUSTMENT for setting.	

TABLE 1 (System Constant setting)

Setting item	Setting content	Setting value
MODEL	AV-27F802 → AV-32F802 → AV-36F802 → AV-27F702 → AV-32F702 → AV-36F702 → AV-27D502 → AV-32D502 → AV-36D502 → AV-36D202 → AV-32D202 → AV-36D302 → AV-32D302 → AV-27260 → AV-32260 → AV-36260 → AV-32230 → AV-36230 → (AV-27F802)	AV-27D502
PURITY	YES → NO → (YES)	NO
CCD	YES → NO → (YES)	YES
V-CHIP	YES → NO → (YES)	YES
CAN V-CHIP	YES → NO → (YES)	YES

TABLE 2 (User setting value)

Setting item	Setting value
1. Use remote controller keys	
POWER	OFF
CHANNEL	CH-02
VOLUME	5
INPUT	TV
HYPER SURROUND	OFF
BBE	ON
DISPLAY	OFF
SLEEP TIMER	0
VIDEO STATUS	CHOICE
PIP SOURCE	CH-04
PIP ON (PIP POSITION)	LEFT LOWR SIDE
2. Setting of MENU	
PICTURE ADJUST	
TINT	CENTER
COLOR	CENTER
PICTURE	CENTER
BRIGHT	CENTER
DETAIL	CENTER
NOISE MUTING	ON
SET VIDEO STATUS	ALL CENTER
SOUND ADJUST	
BASS	CENTER
TREBLE	CENTER
BALANCE	CENTER
MTS	STEREO
CLOCK/TIMERS	
SET CLOCK	Unnecessary to set
ON/OFF TIMER	NO
INITIAL SETUP	
TV SPEAKER	ON
COMPONENT-IN	NO
LANGUAGE	ENG
CLOSED CAPTION	OFF
AUTO TUNER SETUP	TUNER MODE: AIR
CHANNEL SUMMARY	Unnecessary to set
V-CHIP	OFF
SET LOCK CODE	Unnecessary to set

SERVICE ADJUSTMENTS

ADJUSTMENT PREPARATION:

1. **You can make the necessary adjustments for this unit with either the remote control unit or with the adjustment equipment and parts as given below.**
2. **Adjustment with the remote control unit is made on the basis of the initial setting values, however, the new setting values which set the screen to its optimum condition may differ from the initial settings.**
3. Make sure that AC power is turned on correctly.
4. Turn on the power for the set and test equipment before use, and start the adjustment procedures after waiting at least 30 minutes.
5. Unless otherwise specified, prepare the most suitable reception or input signal for adjustment.
6. Never touch any adjustment parts, which are not specified in the list for this adjustment-variable resistors, transformers, capacitors, etc.
7. Presetting before adjustment.
   Unless otherwise specified in the adjustment instructions, preset the following functions with the remote control unit.

● User mode setting position

VIDEO STATUS	STANDARD
HYPER SURROUND	OFF
BASS, TREBLE, BALANCE	CENTER
TINT, COLOR, PICTURE, BRIGHT, DETAIL	CENTER

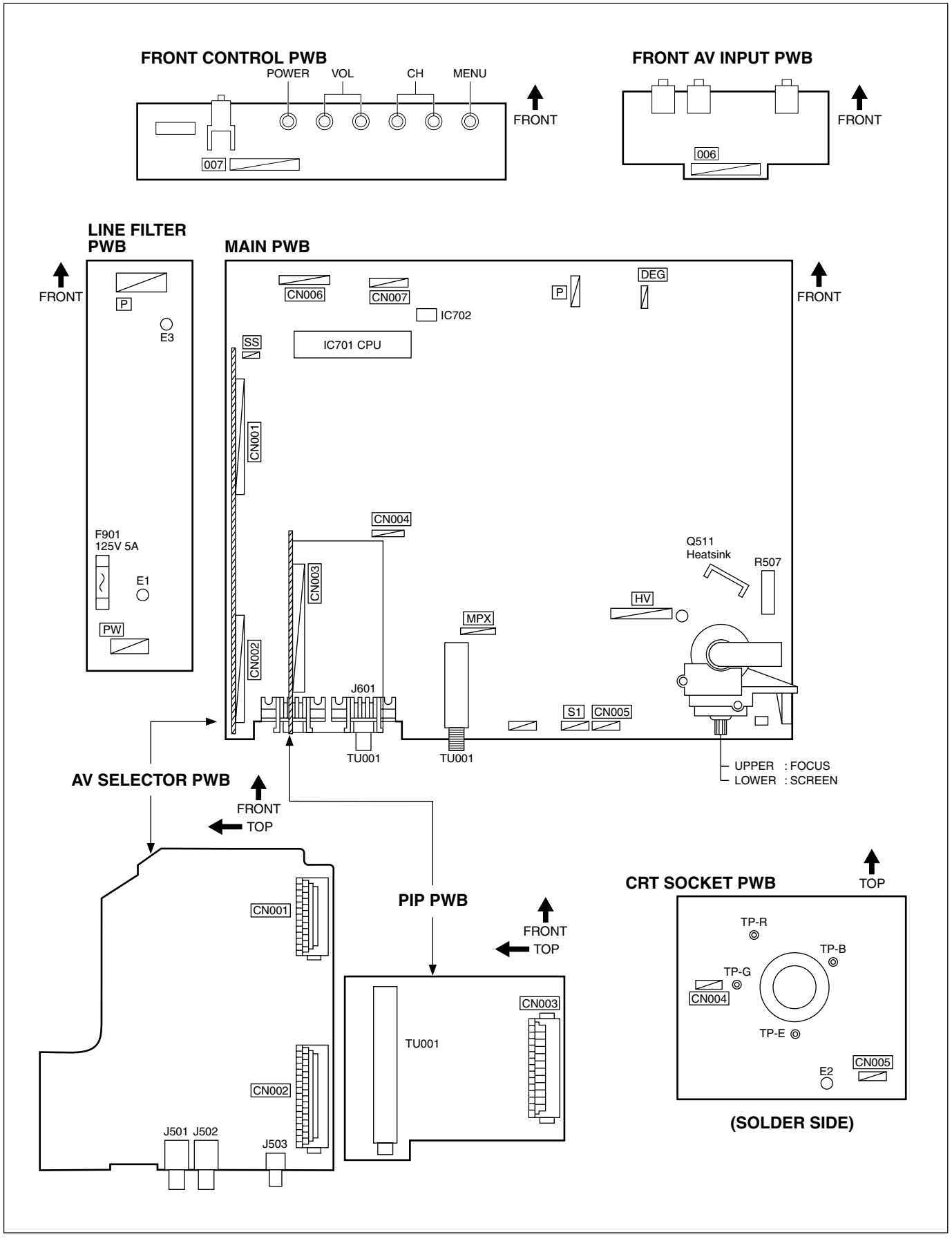
MEASURING INSTRUMENT

1. DC voltmeter(or digital voltmeter)
2. Oscilloscope
3. Signal generator (Pattern generator) [NTSC]
4. Remote control unit
5. TV audio multiplex signal generator
6. Frequency counter
7. Resistor (1MΩ)

ADJUSTMENT ITEMS

- Check of B1 POWER SUPPLY
- RF AGC adjustment
- FOCUS adjustment
- WHITE BALANCE adjustment
  - WHITE BALANCE (Low Light) adjustment
  - WHITE BALANCE (High Light) adjustment
  - PIP HIGH LIGHT WHITE BALANCE Adjustment
- BRIGHT adjustment
  - SUB BRIGHT adjustment
- CONTRAST adjustment
  - SUB CONTRAST adjustment
- DEFLECTION adjustment
  - V CENTER and TRAPEZIUM adjustment
  - V-SIZE and V-LINEARITY adjustment
  - H POSITION adjustment
  - PIP DISPLAY POSITION adjustment
- CHROMA adjustment
  - SUB COLOR adjustment
  - SUB TINT adjustment
- MTS circuit adjustment
  - INPUT LEVEL check
  - STEREO VCO adjustment
  - SAP VCO adjustment
  - FILTER check
  - SEPARATION adjustment

ADJUSTMENT LOCATIONS



BASIC OPERATION OF SERVICE MENU

1. TOOL OF SERVICE MENU OPERATION

Operate the SERVICE MENU with the REMOTE CONTROL UNIT.

2. SERVICE MENU ITEMS

In general, basic setting (adjustments) items or verifications are performed in the SERVICE MENU.

- PICTURE ..... This sets the setting values (adjustment values) of the VIDEO/CHROMA and DEFLECTION circuits.
- SOUND ..... This sets the setting values (adjustment values) of the AUDIO circuit.
- THEATER ..... This is used when the THEATER MODE is adjusted.
- OTHERS ..... This is used when the OTHERS MODE is adjustment.
- PIP ..... This sets the setting values (adjustment values) of the PIP circuit.
- LOW LIGHT ..... This sets the setting values (adjustment values) of the WHITE BALANCE circuit.
- HIGH LIGHT ..... This sets the setting values (adjustment values) of the WHITE BALANCE circuit.
- RF AFC1 ..... This is used when the RF AFC1 MODE is verified. **[Do not adjust]**
- RF AFC2 ..... This is used when the RF AFC2 MODE is verified. **[Do not adjust]**
- VCO (CW) ..... This is not used for service.
- I2C BUS CTRL ..... This is used when ON/OFF of the I2C BUS CTRL is set. **[Fixed ON]**

3. Basic Operations of the SERVICE MENU

(1) How to enter the SERVICE MENU.

Press **SLEEP TIMER** key and, while the indication of **"SLEEP TIMER 0 MIN."** is being displayed, press **DISPLAY** key and **VIDEO STATUS** key on the remote control unit simultaneously to enter the **SERVICE MENU** screen ① shown in the next figure page.

(2) SERVICE MENU screen selection

Press the UP / DOWN key of the MENU to select any of the following items.
(The letters of the selected items are displayed in yellow.)

- PICTURE
- SOUND
- THEATER
- OTHERS
- PIP
- LOW LIGHT
- HIGH LIGHT
- RF AFC1
- RF AFC2
- VCO(CW)
- I2C BUS CTRL

(3) Enter the any setting (adjustment) mode

- **PICTURE, SOUND and OTHERS mode**

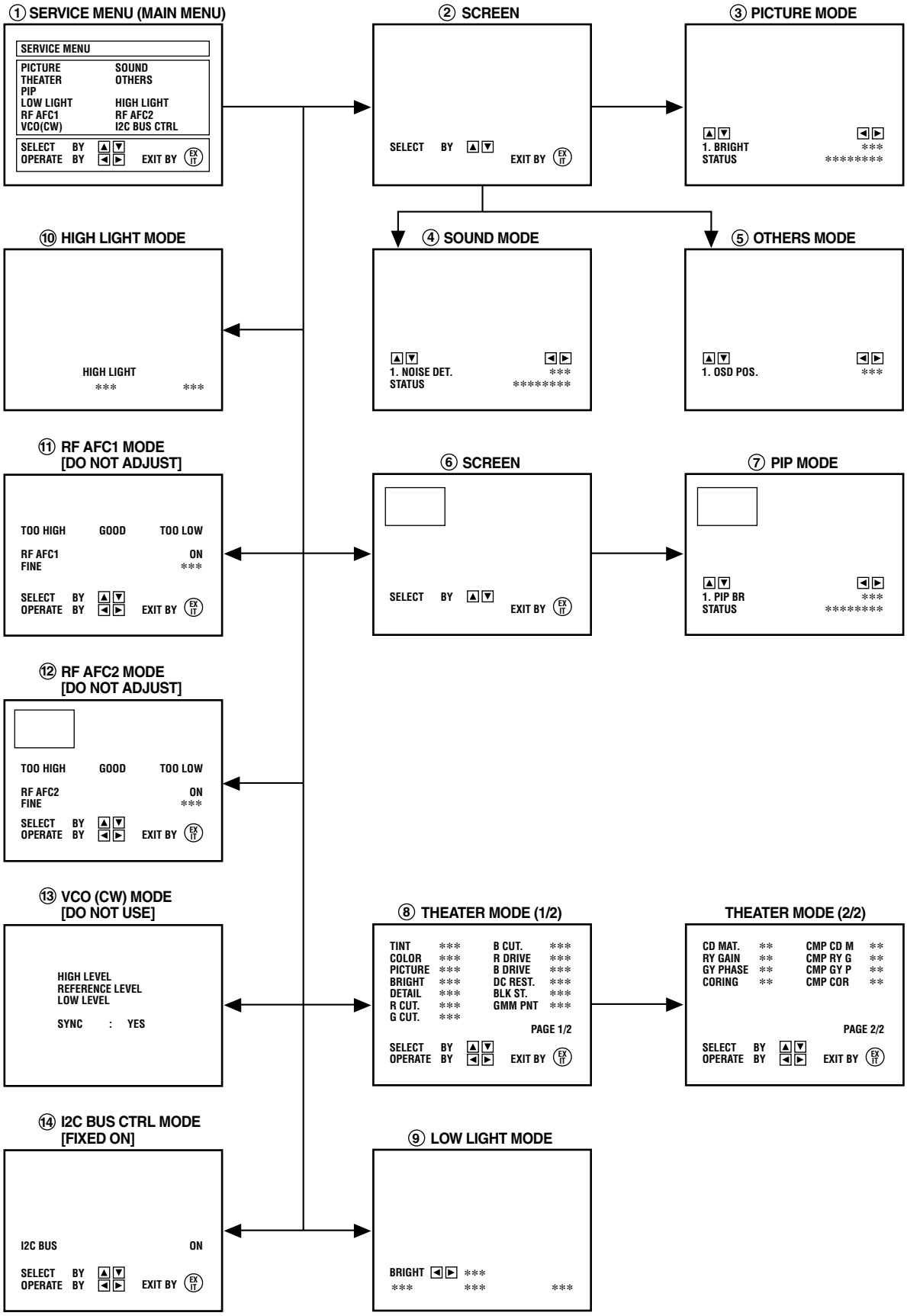
1) If select any of PICTURE, SOUND or OTHERS items, and the LEFT / RIGHT key is pressed from SERVICE MENU (MAIN MENU), the screen ② will be displayed as shown in figure page later.
2) Then the UP / DOWN key is pressed, the PICTURE mode screen ③ or the SOUND mode screen ④ or the OTHER mode screen ⑤ is displayed, and the PICTURE, SOUND or OTHERS setting can be performed.

- **PIP mode**

1) If select the PIP item, and the LEFT/RIGHT key is pressed from SERVICE MENU (MAIN MENU), the screen ⑥ will be displayed as shown in figure page later.
2) Then the UP/DOWN key is pressed, the PIP mode screen ⑦ is displayed, and the PIP setting can be performed.

- **THEATER, LOW LIGHT, HIGH LIGHT, RF AFC1, RF AFC2, VCO(CW) and I2C BUS CTRL mode**

1) If select any of THEATER / LOW LIGHT / HIGH LIGHT / RF AFC1 / RF AFC2 / VCO (CW) / I2C BUS CTRL items, and the LEFT / RIGHT key is pressed from SERVICE MENU (MAIN MENU), the screens ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ will be displayed as shown in figure page later.
2) Then the settings or verifications can be performed.

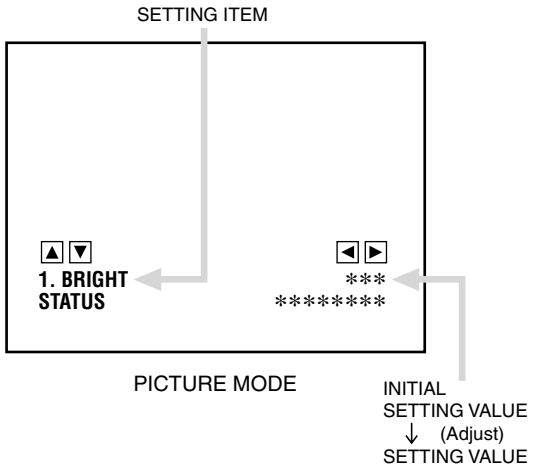

① SERVICE MENU (MAIN MENU)
SERVICE MENU
PICTURE SOUND
THEATER OTHERS
PIP
LOW LIGHT HIGH LIGHT
RF AFC1 RF AFC2
VCO(CW) I2C BUS CTRL
SELECT BY
OPERATE BY
EXIT BY
② SCREEN
SELECT BY
EXIT BY
③ PICTURE MODE
1. BRIGHT ***
STATUS ********
④ SOUND MODE
1. NOISE DET. ***
STATUS ********
⑤ OTHERS MODE
1. OSD POS. ***
⑩ HIGH LIGHT MODE
HIGH LIGHT
*** ***
⑪ RF AFC1 MODE
[DO NOT ADJUST]
TOO HIGH GOOD TOO LOW
RF AFC1 ON
FINE ***
⑥ SCREEN
⑦ PIP MODE
1. PIP BR ***
STATUS ********
⑫ RF AFC2 MODE
[DO NOT ADJUST]
TOO HIGH GOOD TOO LOW
RF AFC2 ON
FINE ***
⑬ VCO (CW) MODE
[DO NOT USE]
HIGH LEVEL
REFERENCE LEVEL
LOW LEVEL
SYNC : YES
⑧ THEATER MODE (1/2)
TINT *** B CUT. ***
COLOR *** R DRIVE ***
PICTURE *** B DRIVE ***
BRIGHT *** DC REST. ***
DETAIL *** BLK ST. ***
R CUT. *** GMM PNT ***
G CUT. ***
PAGE 1/2
THEATER MODE (2/2)
CD MAT. ** CMP CD M **
RY GAIN ** CMP RY G **
GY PHASE ** CMP GY P **
CORING ** CMP COR **
PAGE 2/2
⑭ I2C BUS CTRL MODE
[FIXED ON]
I2C BUS ON
⑨ LOW LIGHT MODE
BRIGHT ***
*** *** ***

(4) Setting method

1) UP / DOWN key of the MENU
   Select the SETTING ITEM.

2) LEFT / RIGHT key of the MENU
   Setting (adjust) the SETTING VALUE of the SETTING ITEM.
   When the key is released the SETTING VALUE will be stored (memorized).

3) EXIT key
   Returns to the previous screen.



(5) Releasing SERVICE MENU

1) After returning to the SERVICE MENU upon completion of the setting (adjustment) work, press the EXIT key again.

★ The settings for LOW LIGHT and HIGH LIGHT are described in the WHITE BALANCE page of ADJUSTMENT.

INITIAL SETTING VALUE OF SERVICE MENU

1. **Adjustment of the SERVICE MENU is made on the basis of the initial setting values; however, the new setting values which set the screen in its optimum condition may differ from the initial setting.**
2. **Do not change the initial setting values of the setting (Adjustment) items not listed in "ADJUSTMENT".**

● PICTURE MODE

☆ The four setting items in the video mode No.6 EXT BRI., No.7 EXT PIC., No.8 EXT COL. and No.9 EXT TINT are linked to the items in the TV MODE No.1 BRIGHT, No.2 PICTURE, No.3 COLOR and No.4 TINT, respectively. When the setting items in the TV mode are adjusted, the values in the setting items in the video mode are revised automatically to the same values in the TV mode.(The initial setting values given in ( ) are off-set values.)

☆ When the four items (No.6, 7, 8 and 9) are adjusted in the video mode, the setting values in each item are revised independently.

No.	Setting (Adjustment) item	Variable range	Initial setting value
1	BRIGHT	000 — 127	063
2	PICTURE	000 — 127	080
3	COLOR	000 — 127	072
4	TINT	000 — 127	065
5	TV DETAIL	000 — 063	045
6	EXT BRIGHT	±025	±001
7	EXT PICT.	±025	±002
8	EXT COLOR	±025	±002
9	EXT TINT	±025	–004
10	EXT DETAIL	000 — 063	045
11	CMP BRIGHT	±025	–003
12	CMP PICT.	±025	+006
13	CMP COLOR	000 — 127	080
14	CMP TINT	000 — 127	068
15	CMP DETAIL	000 — 063	050
16	CMP R CUT	±025	–011
17	CMP G CUT	±025	±000
18	CMP B CUT	±025	–001
19	CMP R DRV	±025	±000
20	CMP B DRV	±025	±000
21	WPL	000 / 001	001
22	B. B. SW	000 / 001	000
23	C TRAP	000 / 001	000
24	CORING	000 / 001	000
25	CMP CORING	000 / 001	001
26	TV SHARPF	000 / 001	001
27	EXT SHARPF	000 / 001	001
28	CMP SHARPF	000 / 001	001
29	RGB CONT	000 — 063	031
30	TV ID SENS	000 / 001	000
31	EXT ID SEN	000 / 001	001
32	F ID	000 / 001	000
33	Y MUTE	000 / 001	000
34	AUDIO ATT	000 — 127	127
35	SUB CONT	000 — 015	008

No.	Setting (Adjustment) item	Variable range	Initial setting value
36	R Y GAIN	000 / 001	001
37	CMP R Y GA	000 / 001	001
38	G Y PHASE	000 / 001	000
39	CMP G Y PH	000 / 001	000
40	CD MATRIX	000 — 003	003
41	CMP CD MAT	000 — 003	002
42	BLACK ST	000 — 003	001
43	DC REST	000 — 003	001
44	COLOR GMM	000 / 001	000
45	UV/CBCR	000 / 001	001
46	AT FLESH	000 / 001	000
47	ABL GAIN	000 — 003	000
48	ABL ST PNT	000 — 003	003
49	RGB ABCL	000 / 001	001
50	TV BPF TOF	000 / 001	000
51	EXT BPF TOF	000 / 001	000
52	GMM PNT	000 — 003	003
53	SVM GAIN	000 — 003	003
54	CMP SVM GA	000 — 003	003
55	SVM PHASE	000 / 001	000
56	AUDIO SW	000 / 001	000
57	BUZZ	000 / 001	000
58	IF FREQ	000 / 001	000
59	RF AGC	000 — 063	045
60	AFT MUTE	000 / 001	000
61	AFT SENS	000 / 001	001
62	R/G DRV SW	000 / 001	001
63	BLK SW	000 / 001	000
64	V S COR	000 — 015	012
65	V LIN	000 — 015	007
66	V SIZE	000 — 127	074
67	V AGC	000 / 001	000
68	V CENTER	000 — 063	053
69	TV AFC	000 — 003	000
70	EXT AFC	000 — 003	002
71	V POSI	000 — 007	000
72	H POSI	000 — 031	016
73	H SIZE	000 — 063	023
74	TV V FREQ	000 — 003	000
75	EXT V FREQ	000 — 003	003
76	SIDE PIN	000 — 063	027
77	STAND BY	000 / 001	000
78	TRAPEZ	000 — 063	035
79	V RAMP REF	000 / 001	001
80	V 48HZ	000 / 001	000
81	V EHT	000 — 007	000
82	TOP PIN	000 — 031	010

No.	Setting (Adjustment) item	Variable range	Initial setting value
83	H EHT	000 — 007	000
84	BTM PIN	000 — 031	012
85	V BLK LOW	000 — 003	000
86	V BLK UP	000 — 003	000
87	CAPTION IN	000 / 001	000
88	H BLK	000 / 001	000
89	SCREEN	000 / 001	000
90	ACB SW	000 / 001	000
91	ACB PULSE	000 — 015	007
92	OVER MODU	000 / 001	001
93	APACON LIM	000 / 001	001
94	TEST	000 — 255	128
95	RF S/N TY	000 — 002	002
96	EXT S/N TY	000 — 002	002
97	RF SN YC E	000 — 255	005
98	RF SN YC F	000 — 255	016
99	RF SN YC G	000 — 063	032
100	RF SN YC H	000 — 255	025
101	EX SN YC E	000 — 255	005
102	EX SN YC F	000 — 255	016
103	EX SN YC G	000 — 063	032
104	EX SN YC H	000 — 255	025
105	RF SN VC 1	000 — 063	000
106	RF SN VC 2	000 — 063	007
107	RF SN VC 3	000 — 063	014
108	RF SN VC 4	000 — 063	021
109	EX SN VC 1	000 — 063	000
110	EX SN VC 2	000 — 063	007
111	EX SN VC 3	000 — 063	014
112	EX SN VC 4	000 — 063	021
113	COR LEVEL	000 — 003	003
114	VNR CHK	000 — 255	003
115	YC SN TIME	000 — 255	005
116	VC SN TIME	000 — 255	005
117	VM DATA A	±127	+008
118	VM DATA B	±127	–004
119	VM DATA C	±127	–016
120	VM DATA D	000 / 001	000
121	VC SN STOP	000 — 255	010
122	CH MUTE	00/001	000
123	VM OFF TY	000/001	000
124	VC VM OFF	000/001	001
125	YC VM OFF	000 — 255	255
126	F LOCK	000 — 002	002
127	VF LOCK EX	000/001	000
128	PURI RGB	000 — 063	031
129	PURI BCK	000/001	000

● SOUND MODE

No.	Setting (Adjustment) item	Variable range	Initial setting value
1	NOISE DET.	000 / 001	001
2	IN LEVEL	000 — 063	025
3	FH MONITOR	000 / 001	000
4	STEREO VCO	000 — 063	030
5	PILOT CAN.	000 / 001	000
6	FILTER	000 — 063	030
7	LOW SEP.	000 — 063	028
8	HI SEP.	000 — 063	025
9	5FH MON.	000 / 001	000
10	SAP VCO	000 — 063	003
11	IN GAIN	000 / 001	000
12	FIL. OFFSET	±010	±000
13	BBE BASS	±010	+003
14	BBE TRE	±010	+003

● THEATER MODE

Setting (Adjustment) item	Variable range	Initial setting value
TINT	±20	–06
COLOR	±20	–03
PICTURE	±50	–15
BRIGHT	±20	±00
DETAIL	±20	+03
R CUT.	±20	±00
G CUT.	±20	±00
B CUT.	±20	±00
R DRIVE	±99	+07
B DRIVE	±99	–25
DC REST.	00 — 03	01
BLK ST.	00 — 03	00
GMM PNT	00 — 03	01
CD MATRIX	00 — 03	01
RY GAIN	00 / 01	01
GY PHASE	00 / 01	00
CORING	00 / 01	01
CMP CD M	00 — 03	01
CMP RY G	00 / 01	01
CMP GY P	00 / 01	00
CMP COR	00 / 01	01

● OTHERS MODE

No.	Setting (Adjustment) item	Variable range	Initial setting value
1	OSD POS.	000 — 007	002
2	CCD POS.	000 — 015	003
3	EOSEL	000 / 001	000
4	MENU COLOR	000 — –030	–010
5	MENU PICT.	000 — –030	–010
6	MENU BRI.	000 — –030	–010

● PIP MODE

No.	Setting (Adjustment) item	Variable range	Initial setting value
1	PIP BR	000 — 015	005
2	PIP PICT	030 — 045	045
3	PIP TINT	000 — 063	036
4	PIP COL	000 — 015	010
5	P R CUT	000 — 015	003
6	P G CUT	000 — 015	000
7	P B CUT	000 — 015	002
8	P R DR	000 — 255	052
9	P G DR	000 — 255	055
10	P B DR	000 — 255	060
11	LEFT POS.	000 — 255	020
12	RIGHT POS.	000 — 255	017
13	UPPER POS.	000 — 127	012
14	LOWER POS.	000 — 127	011
15	PICT LOCK	000 / 001	001
16	SELDEL	000 — 015	000
17	AGCFIX	000 / 001	001
18	AGCADST	000 / 001	000
19	AGC	000 — 015	007
20	VSPDEL	000 — 031	000
21	VSPISQ	000 / 001	001
22	YCOR	000 / 001	001
23	XFREQF	000 / 001	001
24	WTCHDG	000 / 001	001
25	COLON	000 / 001	000
26	ACQNEW	000 / 001	000
27	DSTDET	000 / 001	001
28	CRIBEOK	000 / 001	000
29	FCBEOK	000 / 001	000
30	NOCRID	000 / 001	000
31	NONSED	000 / 001	000

● LOW LIGHT MODE

Setting (Adjustment) item	Variable range	Initial setting value
R CUTOFF	0 — 255	085
G CUTOFF	0 — 255	085
B CUTOFF	0 — 255	085

● HIGH LIGHT MODE

Setting (Adjustment) item	Variable range	Initial setting value
R DRIVE	0 — 127	060
B DRIVE	0 — 127	060

● RF AFC1 MODE

Setting (Adjustment) item	Variable range	Initial setting value
RF AFC1	ON / OFF	ON (DO NOT ADJUST)
FINE	-77 — +77	±××

● RF AFC2 MODE

Setting (Adjustment) item	Variable range	Initial setting value
RF AFC2	ON / OFF	ON (DO NOT ADJUST)
FINE	-77 — +77	±××

● I2C BUS CTRL MODE

Setting (Adjustment) item	Variable range	Initial setting value
I2C BUS	ON/OFF	**[FIXED ON]** (DO NOT ADJUST)

ADJUSTMENTS

B1 POWER SUPPLY

Item	Measuring instrument	Test point	Adjustment part	Description
Check of B1 POWER SUPPLY	**DC Voltmeter**	**R507 C504 side (B1)** **Q511 heatsink (⏚)**		1. Receive a black-and-white signal. 2. Connect the DC Voltmeter to R507 C504 side (B1) and Q511 heatsink (⏚). 3. Confirm that the voltage is DC134V $^{+2V}_{-2V}$.

ADJUSTMENT OF RF AGC

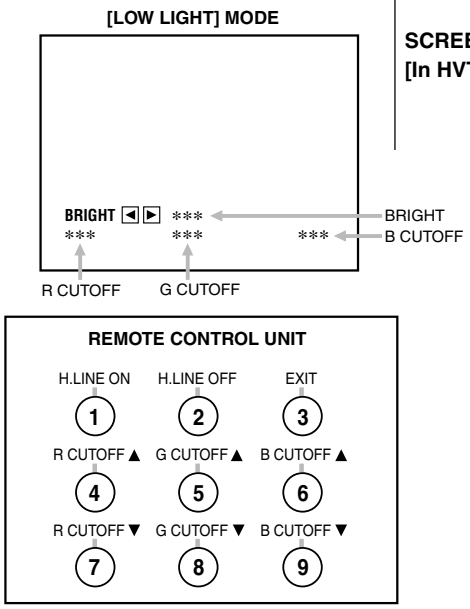
Item	Measuring instrument	Test point	Adjustment part	Description
RF AGC adjustment			**No.59 RF AGC**	1. Receive a broadcast. 2. Select the No.59 RF AGC of the PICTURE MODE. 3. Press the MUTE key of the remote control unit and turn off color. 4. With the LEFT key of the remote control unit, get noise in the screen picture. (0 side of setting value) 5. Press the RIGHT key of the remote control unit and stop when noise disappears from the screen. 6. Change to other channels and make sure that there Is no irregularity. 7. Press the MUTE key and get color out.

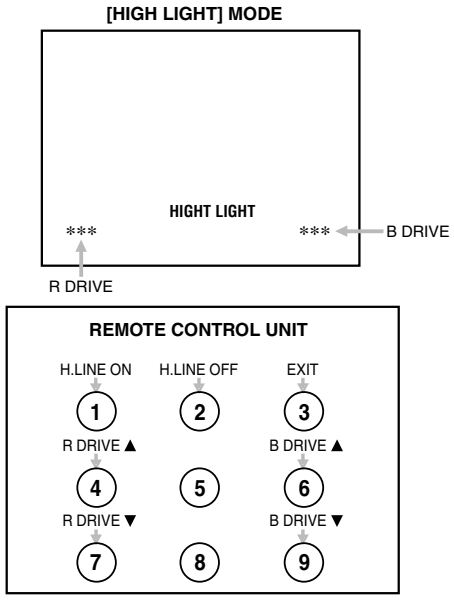
ADJUSTMENT OF FOCUS

Item	Measuring instrument	Test point	Adjustment part	Description
FOCUS adjustment	**Signal generator**		**FOCUS VR [In HVT]** **H VR [In HVT]**	**Notes:** • Proceed to the following this adjustment after having completed the adjustments of B1 POWER SUPPLY, SUB BRIGHT and PICTURE. • Set VIDEO STATUS to “STANDARD”. • The final adjustment of convergence must be done after the FOCUS adjustment. (Convergence is changed by FOCUS adjustment.) 1. Receive a crosshatch signal. 2. While looking at the screen center, adjust the FOCUS VR so that the horizontal lines will be clear and in fine detail. 3. Adjust the H VR so that the vertical lines will be clear and in fine detail. 4. Make sure that the picture is in focus even when the screen gets darkened.

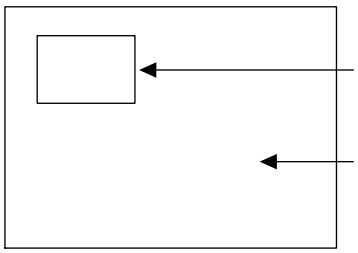
ADJUSTMENT OF WHITE BALANCE

Item	Measuring instrument	Test point	Adjustment part	Description
WHITE BALANCE (Low Light) Adjustment	**Signal generator**		**No.1 BRIGHT** **R CUTOFF** **G CUTOFF** **B CUTOFF** **SCREEN VR [In HVT]**	**Note :** Set VIDEO STATUS to “STANDARD”. 1. Receive a black-and-white signal.(Color off) 2. Select the [LOW LIGHT] MODE from the SERVICE MENU. 3. Set the initial setting value of BRIGHT is 063 with the LEFT / RIGHT key of the remote control unit. 4. Set the initial setting value of R CUTOFF, G CUTOFF and B CUTOFF is 085 with the ④ to ⑨ key of the remote control unit. 5. Display a single horizontal line by pressing the ① key of the remote control unit. 6. Turn the screen VR all the way to the left. 7. Turn the screen VR gradually to the right from the left until either one of the red, blue or green colors appears faintly. 8. Adjust the two colors which did not appear until the single horizontal line that is displayed becomes white using the ④ to ⑨ keys of the remote control unit. 9. Turn the screen VR to where the single horizontal line glows faintly. 10. Press the ② key to return to the regular screen. * The ③ EXIT key is the cancel key for the WHITE BALANCE.
WHITE BALANCE (High Light) Adjustment	**Signal generator**		**R DRIVE** **B DRIVE**	**Notes:** • Proceed to the following this adjustment after having completed the adjustment of LOW LIGHT WHITE BALANCE. • Set VIDEO STATUS to “STANDARD”. 1. Receive a black-and-white signal. (Color off) 2. Select the [HIGH LIGHT] MODE from the SERVICE MENU. 3. Set the initial setting value of R DRIVE and B DRIVE is 060 with the ④, ⑥, ⑦ and ⑨ keys of the remote control unit. 4. Adjust the screen until it becomes white using the ④, ⑥, ⑦ and ⑨ keys of the remote control unit. * The ③ (EXIT) key is the cancel key for the WHITE BALANCE.





Item	Measuring instrument	Test point	Adjustment part	Description
PIP HIGH LIGHT WHITE BALANCE	**Signal generator**		**No.8 P R DR** **No.10 P B DR**	**Notes:** • Proceed to the following this adjustment after having completed the adjustments of LOW LIGHT WHITE BALANCE and HIGH LIGHT WHITE BALANCE for the main picture. • Set VIDEO STATUS to “STANDARD”. 1. Receive a black-and-white signal. (Color off) 2. Select the PIP MODE from the SERVICE MENU. 3. Then adjust the white color of the PIP screen using the No. 8 P R DR and the No. 10 P B DR of the PIP MODE so that it is the same brightness as the main screen.



ADJUSTMENT OF BRIGHT

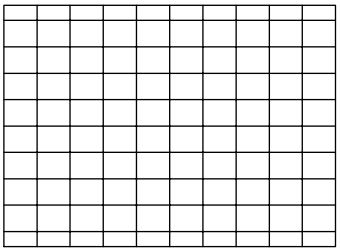
Item	Measuring instrument	Test point	Adjustment part	Description
SUB BRIGHT Adjustment			**No.1 BRIGHT**	**Notes:** • Proceed to the following this adjustment after having completed the adjustments of LOW LIGHT WHITE BALANCE and HIGH LIGHT WHITE BALANCE. • Set VIDEO STATUS to “STANDARD”. 1. Receive a broadcast. 2. Select the No.1 BRIGHT of the PICTURE MODE. 3. Set the initial setting value of the No.1 BRIGHT with the LEFT / RIGHT key of the remote control unit. 4. If the brightness is not best with the initial setting value, make fine adjustment of the No.1 BRIGHT until you get the optimum brightness.

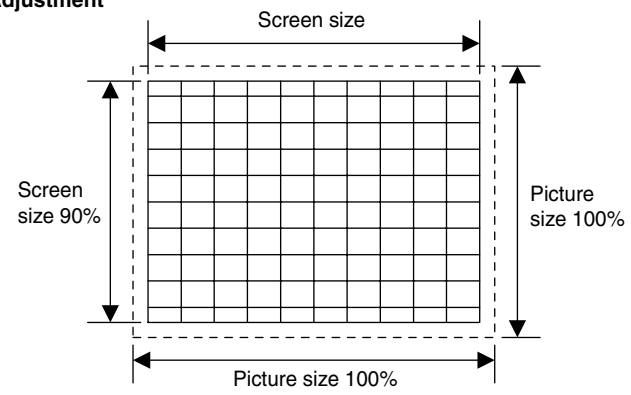
ADJUSTMENT OF CONTRAST

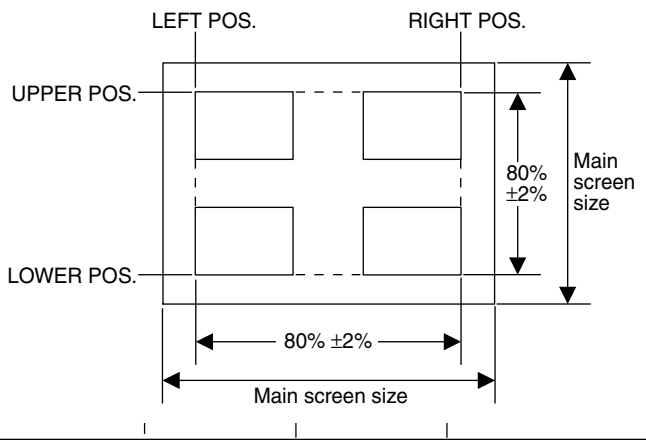
Item	Measuring instrument	Test point	Adjustment part	Description
SUB CONTRAST Adjustment			**No.2 PICTURE**	**Notes:** • Proceed to the following this adjustment after having completed the adjustment of SUB BRIGHT. • Set VIDEO STATUS to “STANDARD”. 1. Receive a broadcast. 2. Select the No.2 PICTURE of the PICTURE MODE. 3. Set the initial setting value of the No.2 PICTURE with the LEFT / RIGHT key of the remote control unit. 4. If the contrast is not best with the initial setting value, make fine adjustment of the No.2 PICTURE until you get the optimum contrast.

ADJUSTMENT OF DEFLECTION

Item	Measuring instrument	Test point	Adjustment part	Description
V CENTER and TRAPEZIUM Adjustment	**Signal generator**		**No.68 V CENTER** **No.78 TRAPEZ**	**Note:** Proceed to the following this adjustment after having completed the adjustments of SUB BRIGHT and SUB CONTRAST. 1. Receive a crosshatch signal. 2. Adjust the No.68 V CENTER of the PICTURE MODE to be the same between the CRT vertical center and crosshatch vertical center. 3. Adjust the No.78 TRAPEZ of the PICTUER MODE to be the vertical lines straight. 4. Confirm the vertical lines to be straight. If it is not straight, adjust to be straight at the No.78 TRAPEZ.
V-SIZE and V-LINEARITY Adjustment	**Signal generator**		**No.66 V SIZE** **No.65 V LIN**	**Note:** Proceed to the following this adjustment after having completed the adjustments of SUB BRIGHT and SUB CONTRAST. 1. Receive a crosshatch signal. 2. Select the No.66 V SIZE of the PICTURE MODE to squeeze the laster. 3. Adjust the No.65 V LIN of the PICTURE MODE to be symmetrical. 4. Adjust the No.66 V SIZE until the vertical screen size is 90%.
H POSITION Adjustment	**Signal generator**		**No.72 H POSI**	**Note:** Proceed to the following this adjustment after having completed the adjustments of FOCUS, SUB BRIGHT, SUB CONTRAST, V CENTER, TRAPEZIUM, V-SIZE and V-LINEARITY. 1. Receive a crosshatch signal. 2. Select the No.72 H POSI of the PICTURE MODE. 3. Adjust the No.72 H POSI until the screen will be horizontally centered.
PIP DISPLAY POSITION Adjustment			**No.11 LEFT POS.** **No.12 RIGHT POS.** **No.13 UPPER POS.** **No.14 LOWER POS.**	**Notes:** • Proceed to the following this adjustment after having completed the adjustments of V CENTER, TRAPEZIUM, V-SIZE, V-LINEARITY and H POSITION for the main picture. • Set VIDEO STATUS to “STANDARD”. 1. Receive a broadcast. 2. Select the PIP MODE from the SERVICE MENU. 3. Then adjust the PIP screen size so that it occupies 80% ± 2% of the main screen area.

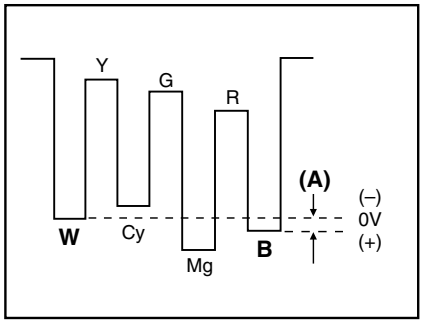






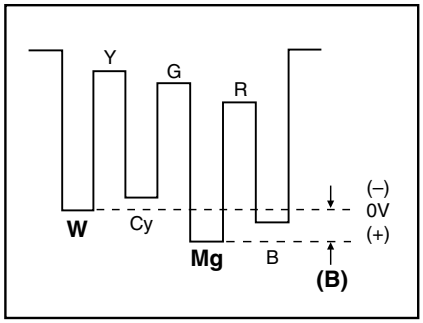
ADJUSTMENT OF CHROMA

Item	Measuring instrument	Test point	Adjustment part	Description
SUB COLOR adjustment	**Signal generator Oscilloscope Remote control unit**	**TP-B TP-E(⏚) [CRT SOCKET PWB]**	**No.3 COLOR**	**Notes:** • Proceed to the following this adjustment after having completed the adjustment of CONTRAST. • Set VIDEO STATUS to “STANDARD”. **[Method of adjustment without measuring instrument]** 1. Receive a broadcast. 2. Select the No.3 COLOR of the PICTURE MODE. 3. Set the initial setting value of the No.3 COLOR with the LEFT/RIGHT key of the remote control unit. 4. If the color is not the best with the Initial setting value, make fine adjustment of the No.3 COLOR until you get the optimum color.
				Notes: • Proceed to the following this adjustment after having completed the adjustment of CONTRAST. • Set VIDEO STATUS to “STANDARD”. **[Method of adjustment using measuring instrument]** 1. Input the full field color bar signal (75% white). 2. Select the No.3 COLOR of the PICTURE MODE. 3. Set the initial setting value of the No.3. COLOR with the LEFT/RIGHT key of the remote control unit. 4. Connect the oscilloscope between TP-B and TP-E. 5. Adjust COLOR and bring the value of (A) in the illustration to the voltage shown in the table 1.
SUB TINT adjustment	**Signal generator Oscilloscope Remote control unit**	**TP-B TP-E(⏚) [CRT SOCKET PWB]**	**No.4 TINT**	**Notes:** • Proceed to the following this adjustment after having completed the adjustment of CONTRAST. • Set VIDEO STATUS to “STANDARD”. **[Method of adjustment without measuring instrument]** 1. Receive a broadcast. 2. Select the No.4 TINT of the PICTURE MODE. 3. Set the initial setting value of the No.4 TINT with the LEFT/RIGHT key of the remote control unit. 4. If the tint is not the best with the initial setting value, make fine adjustment of the No.4 TINT until you get the optimum tint.
				Notes: • Proceed to the following this adjustment after having completed the adjustment of CONTRAST. • Set VIDEO STATUS to “STANDARD”. **[Method of adjustment using measuring instrument]** 1. Input the full field color bar signal (75% white). 2. Select the No.4 TINT of the PICTURE MODE. 3. Set the initial setting value of the No.4 TINT with the LEFT/RIGHT key to the remote control unit. 4. Connect the oscilloscope between TP-B and TP-E. 5. Adjust TINT and bring the value of (B) in the illustration to the voltage shown in the table 2.



	A (Vw-B)
AV-27D502/R	+7V
AV-27D502/S	+4V

Table 1

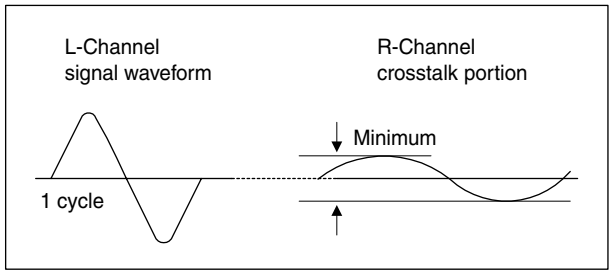


	B (Vw-Mg)
AV-27D502/R	+9V
AV-27D502/S	+5V

Table 2

ADJUSTMENT OF MTS CIRCUIT

Item	Measuring instrument	Test point	Adjustment part	Description
MTS INPUT LEVEL check			**No.2 IN LEVEL**	1. Select the No.2 IN LEVEL of the SOUND MODE. 2. Verify that the No.2 IN LEVEL is set at its initial setting value.
MTS STEREO VCO adjustment	**Signal generator** **Frequency counter**	**[MPX] Connector** **2 pin AUDIO R** **3 pin GND**	**No.3 FH MONITOR** **No.4 STEREO VCO**	**Note:** Menu “MTS” is set to “STEREO” 1. Receive a RF signal (nonmodulated sound signal) from the antenna terminal. 2. Select the No.3 FH MONITOR of SOUND MODE, and change the setting value from 0 to 1. 3. Connect the Frequency Counter to pin 2 of [MPX] connector and GND (Pin 3 of [MPX] connector). 4. Select the No.4 STEREO VCO. 5. Set the initial setting value of the No.4 STEREO VCO with the LEFT/RIGHT key of the remote control unit. 6. Adjust the No.4 STEREO VCO so that the frequency counter will display 15.73kHz±0.1kHz. 7. Select the No.3 FH MONITOR of the SOUND MODE, and reset the setting value from 1 to 0.
MTS SAP VCO adjustment	**Signal generator** **Frequency counter**	**[MPX] Connector** **4 pin TP_952.5** **3 pin GND** **2 pin AUDIO_R**	**No.9 5FH MON.** **No.10 SAP VCO**	1. Receive a RF signal (non modulated sound signal) from the antenna terminal. 2. Connect between pin 4 of [MPX] connector and GND (Pin 3 of [MPX] connector) through 1MΩ Resistor. 3. Select the No.9 5FH MON. of the SOUND MODE, and reset the setting value from 0 to 1. 4. Connect the Frequency Counter to pin 2 of [MPX] connector and GND (Pin 3 of [MPX] connector) . 5. Select the No.10 SAP VCO. 6. Set the initial setting value of the No.10 SAP VCO with the LEFT/RIGHT key of the remote control unit. 7. Adjust the No.10 SAP VCO so that the frequency counter will display 78.67kHz±0.5kHz. 8. Select the No.9 5FH MON. of the SOUND MODE, and reset the setting value from 1 to 0.
MTS FILTER check			**No.6 FILTER**	1. Select the No.6 FILTER of the SOUND MODE. 2. Verify that the No.6 FILTER is set at its initial setting value.
MTS SEPARATION adjustment	**TV audio multiplex signal generator** **Oscilloscope**	**[MPX] Connector** **1 pin AUDIO_L** **2 pin AUDIO_R** **3 pin GND**	**No.7 LOW SEP.** **No.8 HI SEP.**	**Note:** Menu “MTS” is set to “STEREO” 1. Input a stereo L signal (300Hz) from the TV audio multiplex signal generator to the antenna terminal. 2. Connect an oscilloscope to pin 1 of [MPX] connector, and display one cycle portion of the 300Hz signal. 3. Change the connection of the oscilloscope to pin 2 of [MPX] connector, and enlarge the voltage axis. 4. Select the No.7 LOW SEP. of the SOUND MODE. 5. Set the initial setting value of the No.7 LOW SEP. with the LEFT/RIGHT key of the remote control unit. 6. Adjust the No.7 LOW SEP. so that the 300Hz signal level will become minimum. 7. Change the signal to 3kHz, and connect an oscilloscope to pin 1 of [MPX] connector. 8. Adjust the No.8 HI SEP. so that the 3kHz signal level will become minimum.



HOW TO CHECK THE HIGH VOLTAGE HOLD DOWN CIRCUIT

1. HIGH VOLTAGE HOLD DOWN CIRCUIT

After repairing the high voltage hold down circuit shown in Fig. 1.
This circuit shall be checked to operate correctly.

2. CHECKING OF THE HIGH VOLTAGE HOLD DOWN CIRCUIT

(1) Turn the POWER SW ON.
(2) As shown in Fig. 1, set the resistor (between S1 connector 2 & 3).
(3) Make sure that the screen picture disappears.
(4) Temporarily unplug the power cord.
(5) Remove the resistor (between S1 connector 2 & 3).
(6) Again plug the power cord, make sure that the normal picture is displayed on the screen.

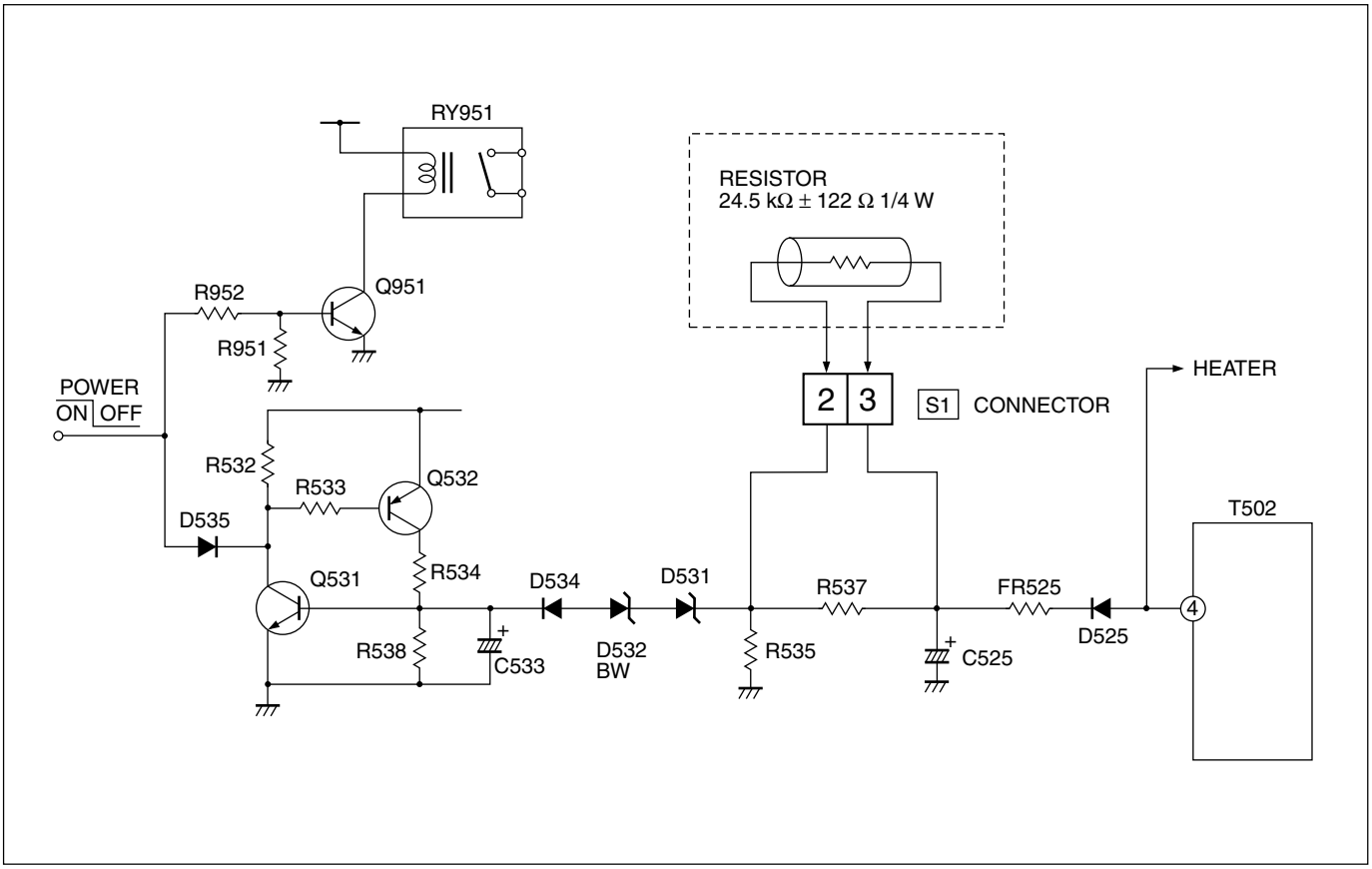


Fig. 1

SELF CHECK FUNCTIONS

1. Outline

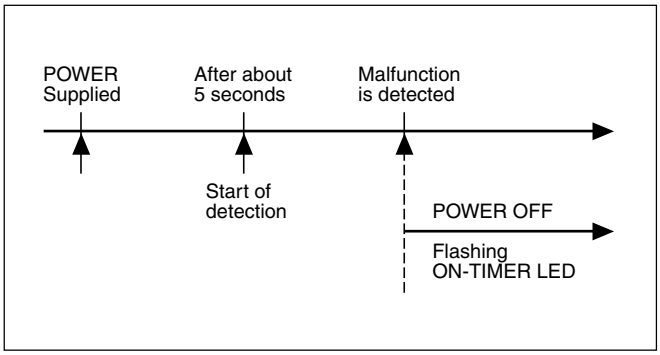
This model has self check functions given below. When a malfunction has been detected, the POWER is turned off and the LED flashes to inform of the failure . The malfunction is detected by the signal input state of the control line connected to the microcomputer.

2. Self check items

Check item	Details of detection	Method of detection	State of malfunction
Over-current protector	Operation of B1 protector circuit.	The microcomputer detects at 1 second intervals. If NG is detected for more than 200 ms, a malfunction is interpreted.	When a malfunction has been detected, the POWER is turned off. While the POWER is being turned off , the power key of the remote controller is not operational until the power code is taken out and put in again.

3. Self check indicating function

The self-check function begins detection about 5 seconds after power is supplied.
In the event a malfunction is detected, the power is cut off immediately.
At this time, the ON-TIMER LED flashes to inform of the malfunction.



[ON-TIMER LED indication]
The ON-TIMER LED flashes at 0.5 seconds intervals.

JVC SERVICE & ENGINEERING COMPANY OF AMERICA

DIVISION OF JVC AMERICAS CORP.

Head office	:	1700 Valley Road, Wayne, New Jersey 07470	(973)315-5000
East Coast	:	10 New Maple Avenue, Pine Brook, New Jersey 07058	(973)396-1000
Midwest	:	705 Enterprise St. Aurora, Illinois 60504	(630)851-7855
West Coast	:	5665 Corporate Avenue, Cypress, California 90630	(714)229-8011
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Southeast	:	1500 Lakes Parkway, Lawrenceville, Georgia 30243	(770)339-2582

JVC CANADA INC.

Head office	:	21 Finchdene Square Scarborough, Ontario M1X 1A7	(416)293-1311
Vancouver	:	13040 Worster Court Richmond B.C. V6V 2B3	(604)270-1311

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SCHEMATIC DIAGRAMS

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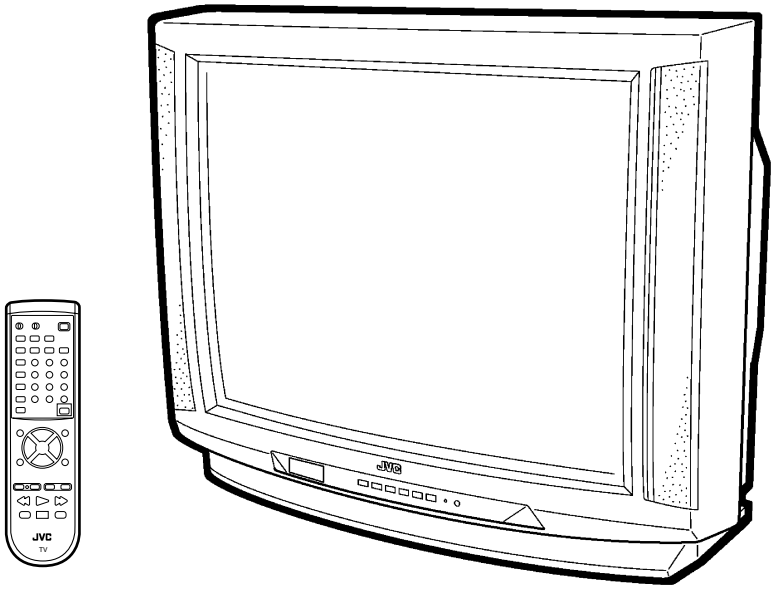

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No. 51797C
Dec. 2001

AV-27D502 /AR
AV-27D502 /AS STANDARD CIRCUIT DIAGRAM

■ NOTE ON USING CIRCUIT DIAGRAMS

1. SAFETY

The components identified by the ⚠ symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

2. SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

(1) Input signal : Color bar signal
(2) Setting positions of each knob/button and variable resistor : Original setting position when shipped
(3) Internal resistance of tester : DC 20kΩ/V
(4) Oscilloscope sweeping time : H ⇒ 20μS/div
: V ⇒ 5mS/div
: Others ⇒ Sweeping time is specified
(5) Voltage values : All DC voltage values

∗Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3. INDICATION OF PARTS SYMBOL [EXAMPLE]

● In the PW board : R1209 → R209

4. INDICATIONS ON THE CIRCUIT DIAGRAM

(1) Resistors

● Resistance value

No unit	: [Ω]
k	: [kΩ]
M	: [MΩ]

● Rated allowable power

No indication	: 1/16 [W]
Others	: As specified

● Type

No indication	: Carbon resistor
OMR	: Oxide metal film resistor
MFR	: Metal film resistor
MPR	: Metal plate resistor
UNFR	: Uninflammable resistor
FR	: Fusible resistor

∗Composition resistor 1/2 [W] is specified as 1/2S or Comp.

(2) Capacitors

● Capacitance value

1 or higher	: [pF]
less than 1	: [μF]

● Withstand voltage

No indication	: DC50[V]
AC indicated	: AC withstand voltage [V]
Others	: DC withstand voltage [V]

∗ Electrolytic Capacitors
47/50[Example] : Capacitance value [μF]/withstand voltage[V]

● Type

No indication	: Ceramic capacitor
MY	: Mylar capacitor
MM	: Metalized mylar capacitor
PP	: Polypropylene capacitor
MPP	: Metalized polypropylene capacitor
MF	: Metalized film capacitor
TF	: Thin film capacitor
BP	: Bipolar electrolytic capacitor
TAN	: Tantalum capacitor

(3) Coils

No unit	: [μH]
Others	: As specified

(4) Power Supply

: B1
: B2(12V)
: 9V
: 5V

∗Respective voltage values are indicated

(5) Test point

: Test point
: Only test point display

(6) Connecting method

: Connector
: Wrapping or soldering
: Receptacle

(7) Ground symbol

: LIVE side ground
: ISOLATED(NEUTRAL) side ground
: EARTH ground
: DIGITAL ground

5. NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND and the ISOLATED(NEUTRAL) : (⏚) side GND. Therefore, care must be taken for the following points.

(1) Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.
(2) Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time with a measuring apparatus (oscilloscope, etc.). If the above precaution is not respected , a fuse or any parts will be broken.

● **Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.**

Dec. 2001 No. 51797C

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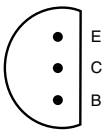
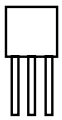
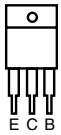
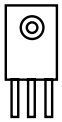
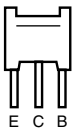
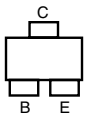
SEMICONDUCTOR SHAPES

TRANSISTOR

BOTTOM VIEW	FRONT VIEW				TOP VIEW
					CHIP TR 

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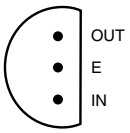
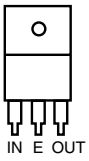
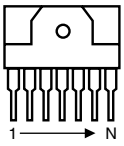
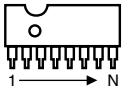
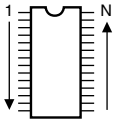
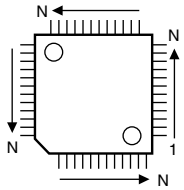
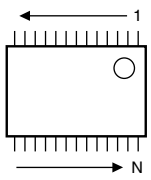
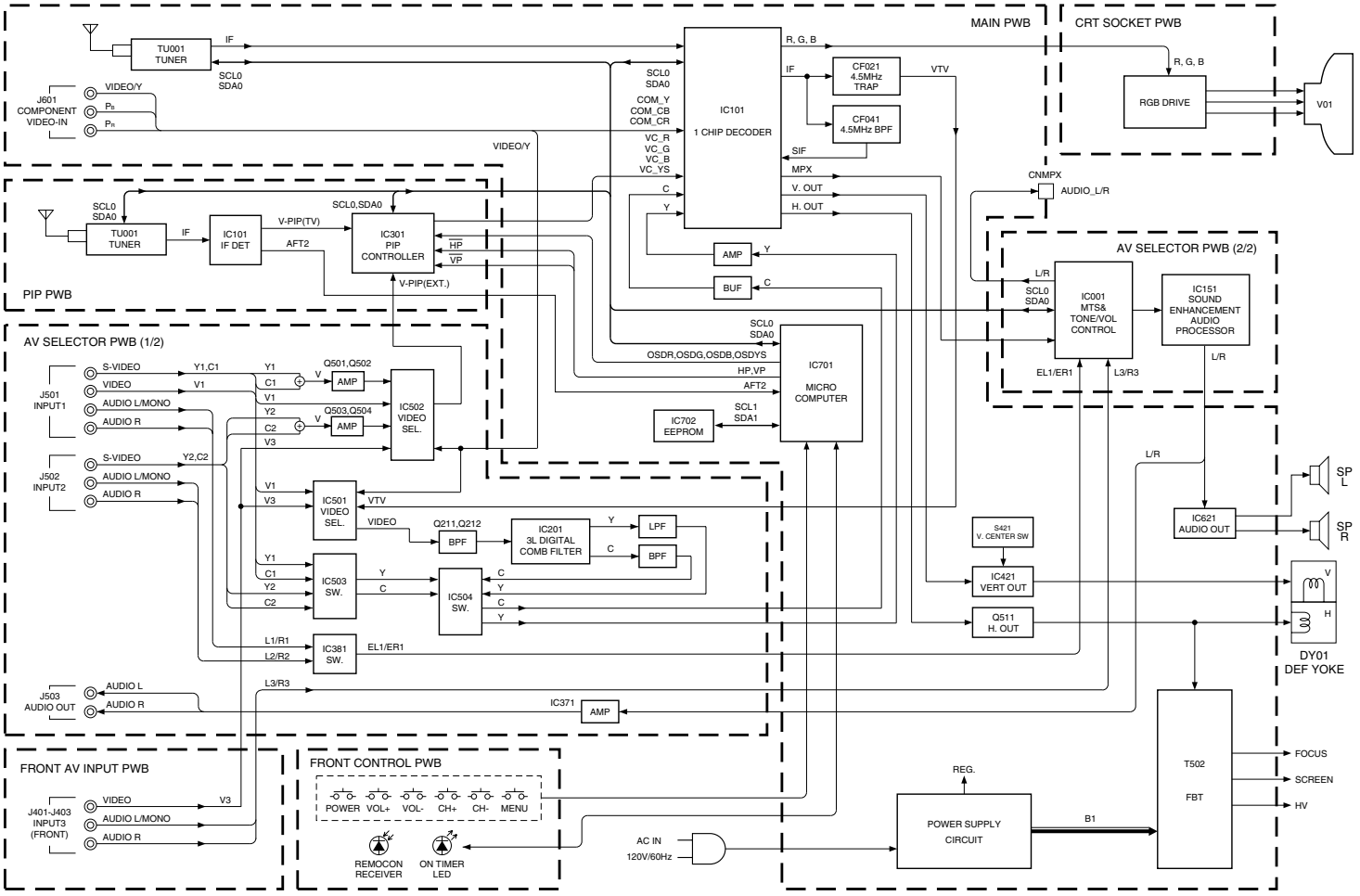
BOTTOM VIEW	FRONT VIEW			TOP VIEW
				

CHIP IC

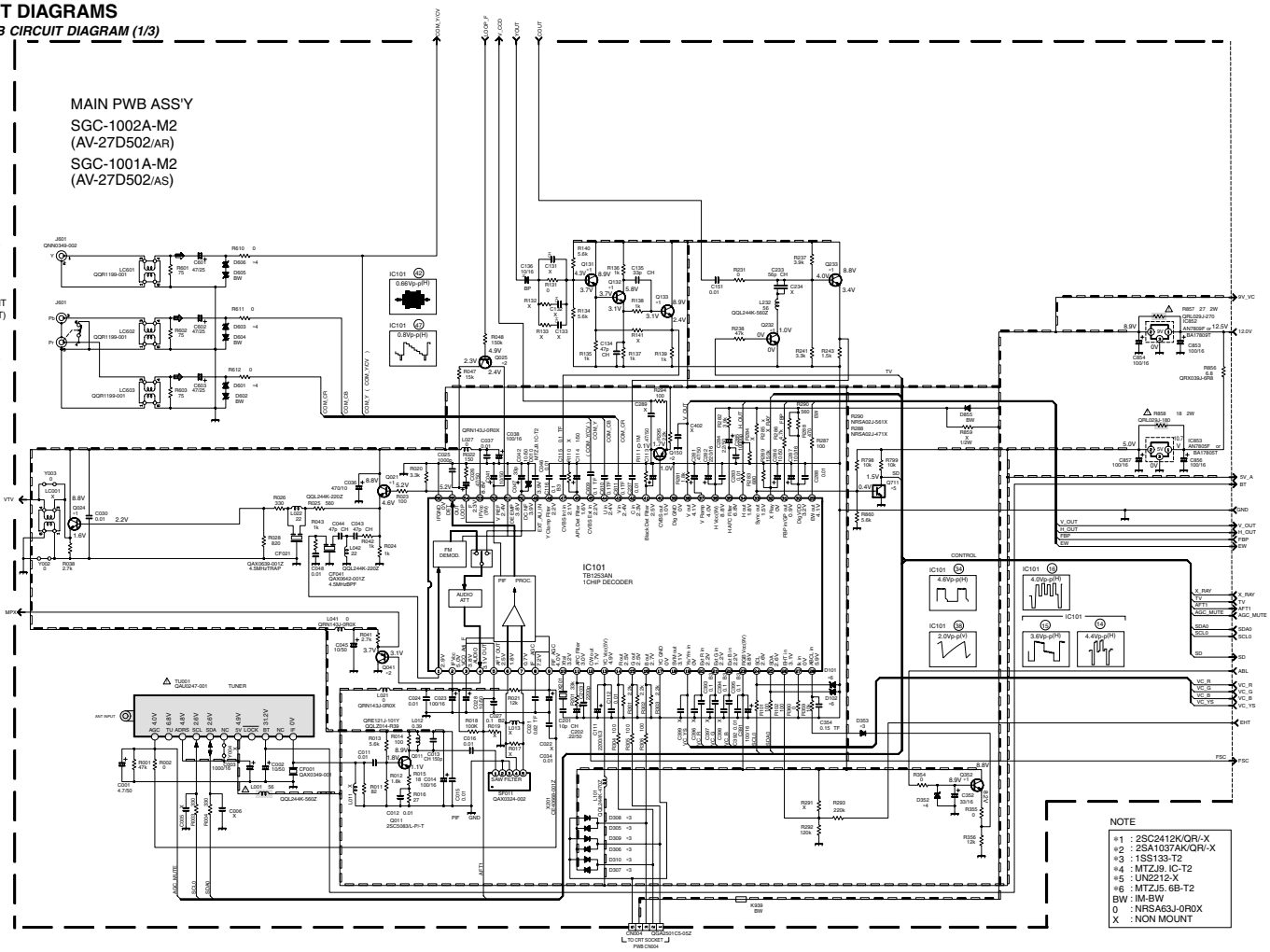
TOP VIEW		
		

BLOCK DIAGRAM

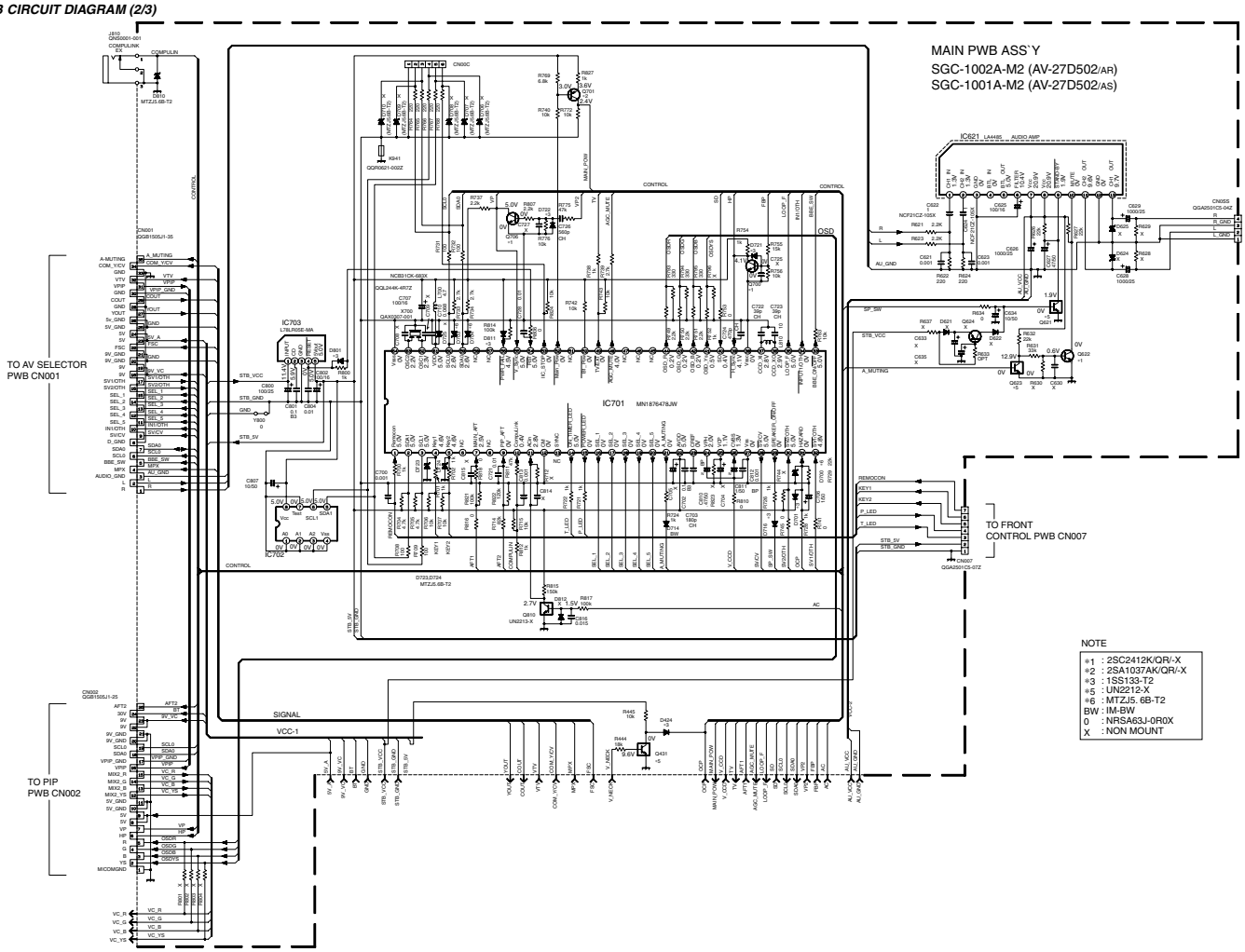


CIRCUIT DIAGRAMS

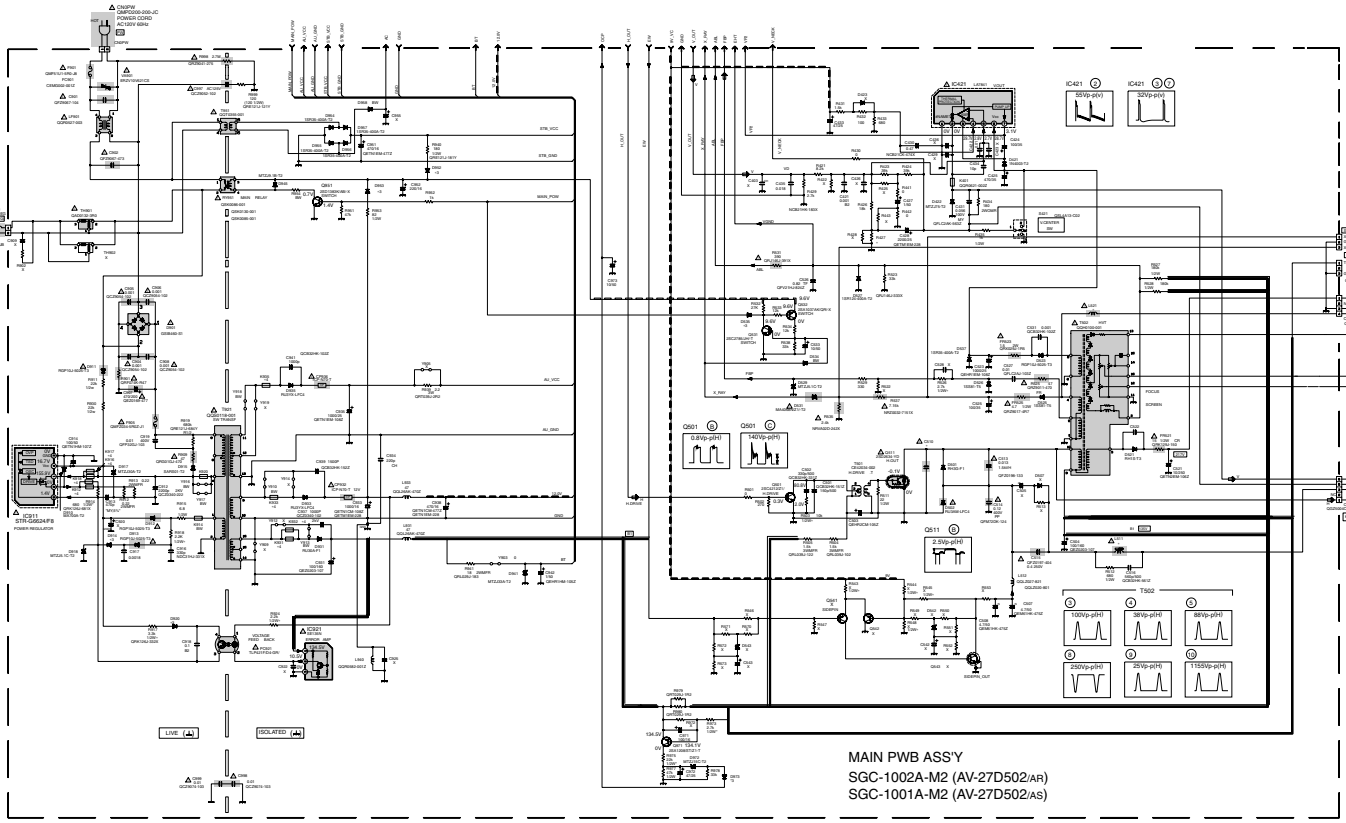
MAIN PWB CIRCUIT DIAGRAM (1/3)



MAIN PWB CIRCUIT DIAGRAM (2/3)



MAIN PWB CIRCUIT DIAGRAM (3/3)



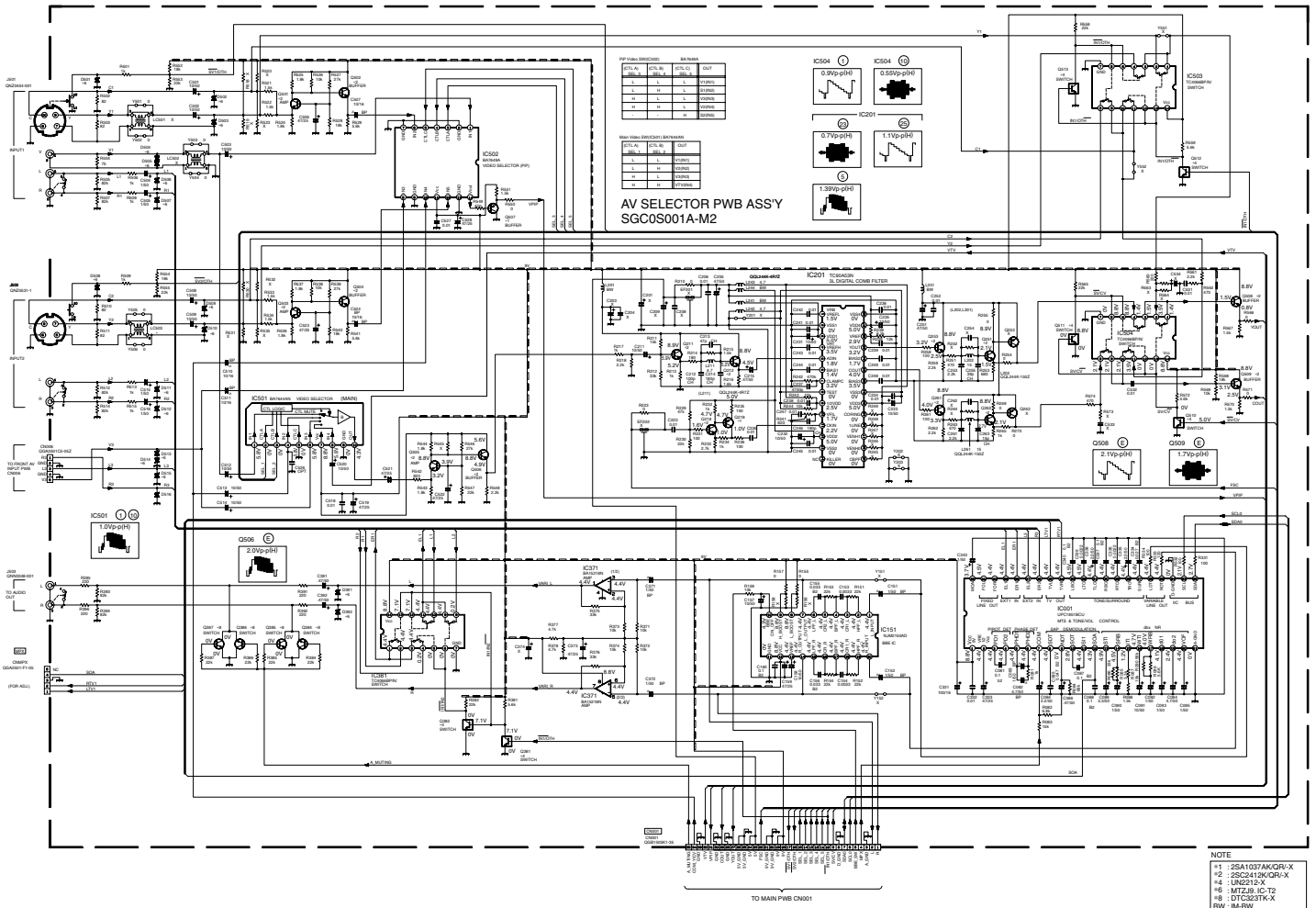
※ DIFFERENCE LIST (※ PARTS)

	△ L511	△ L521	△ C510	△ R427
SGC-1002A-M2	QQR1027 -2	QQLZ018 -560	QFZ0196 -382	QRT029J -1R0
SGC-1001A-M2	QQR1027 -4	QQLZ026 -101	QFZ0196 -472	QRT029J -R82

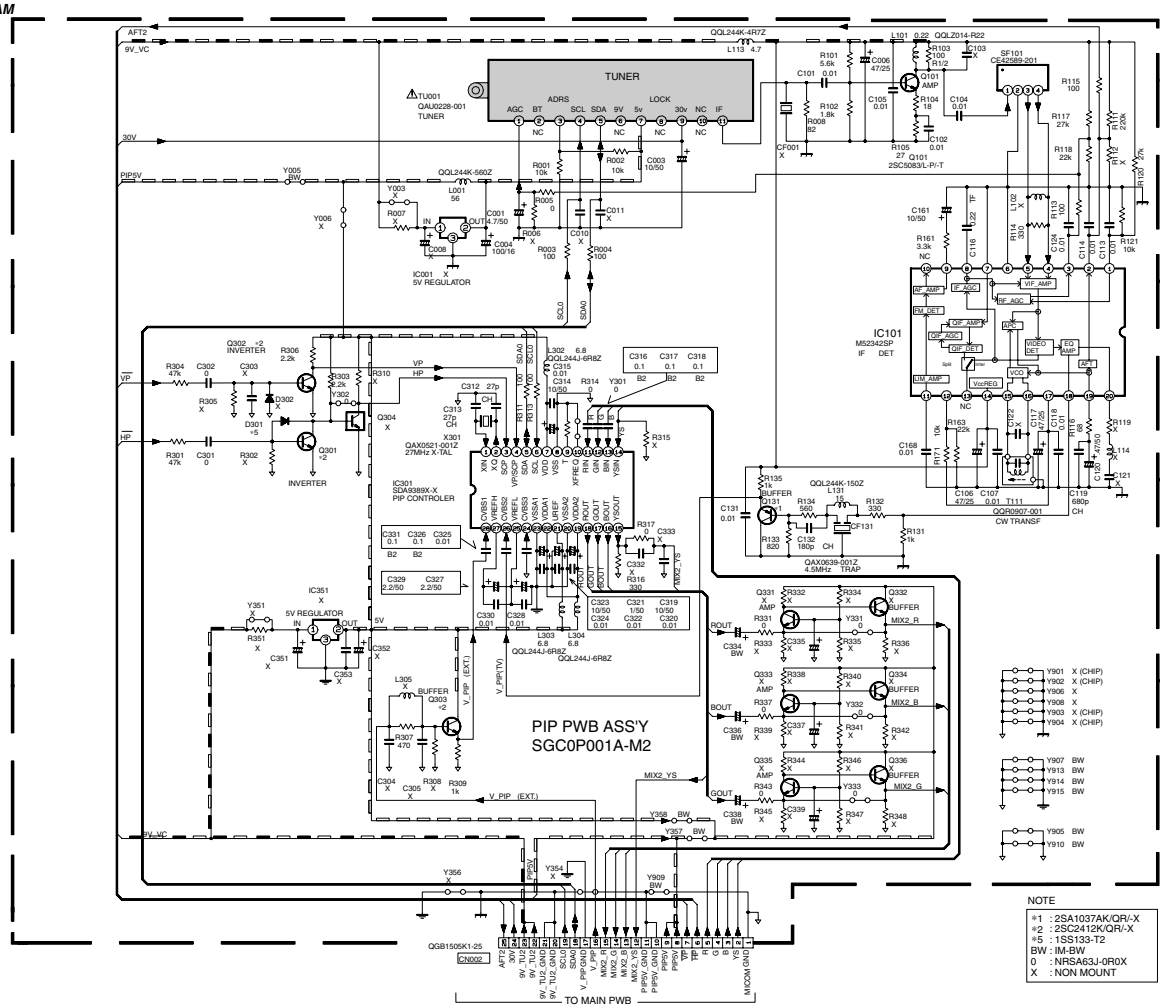
NOTE

*3 : 1SS133-T2
*4 : QQR0582-001Z
BW : IM-BW
0 : NRSA63J-0R0X
X : NON MOUNT

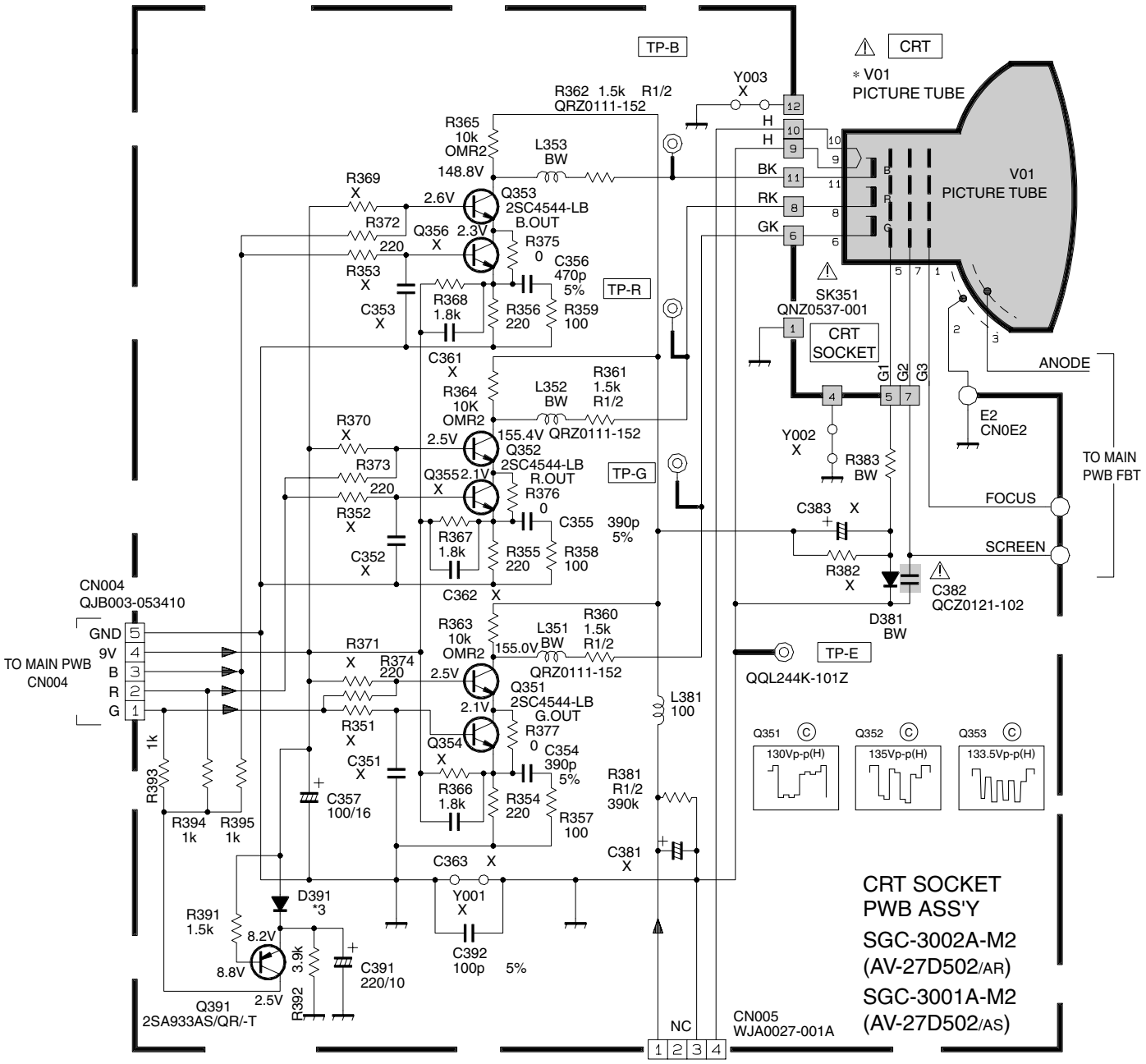
AV SELECTOR PWB CIRCUIT DIAGRAM



PIP PWB CIRCUIT DIAGRAM



CRT SOCKET PWB CIRCUIT DIAGRAM



* DIFFERENCE LIST (* PARTS)

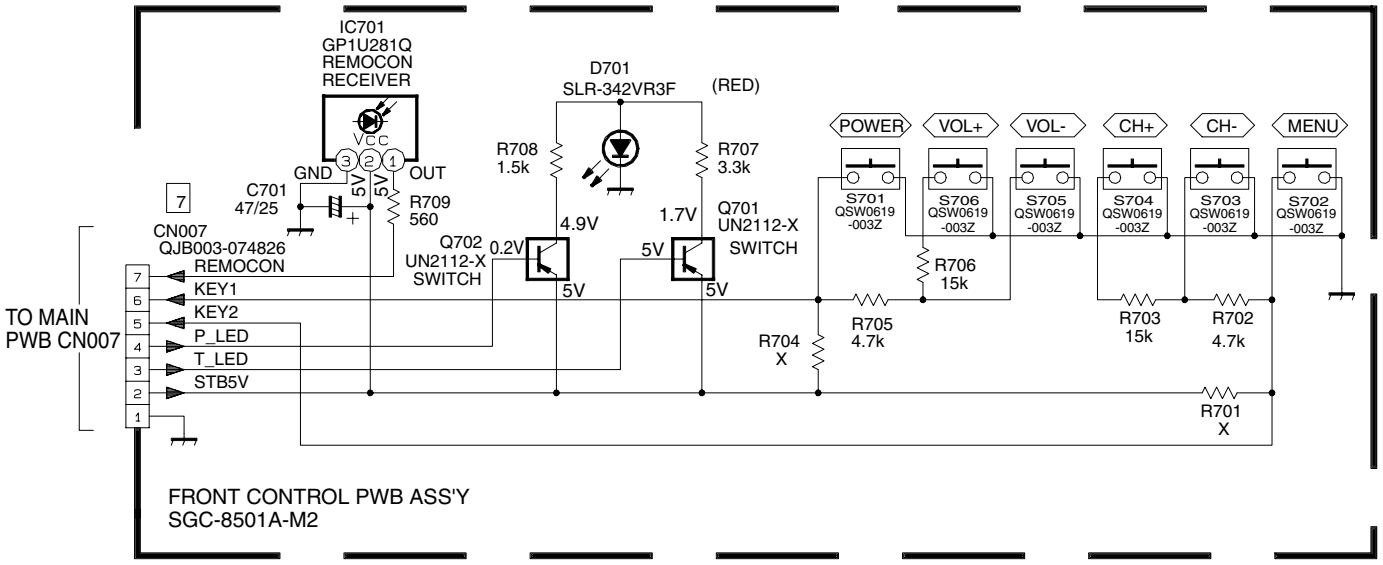
	SGC-3002A-M2	SGC-3001A-M2
⚠V01	A68ADT25X01	A68QDN891X001

NOTE

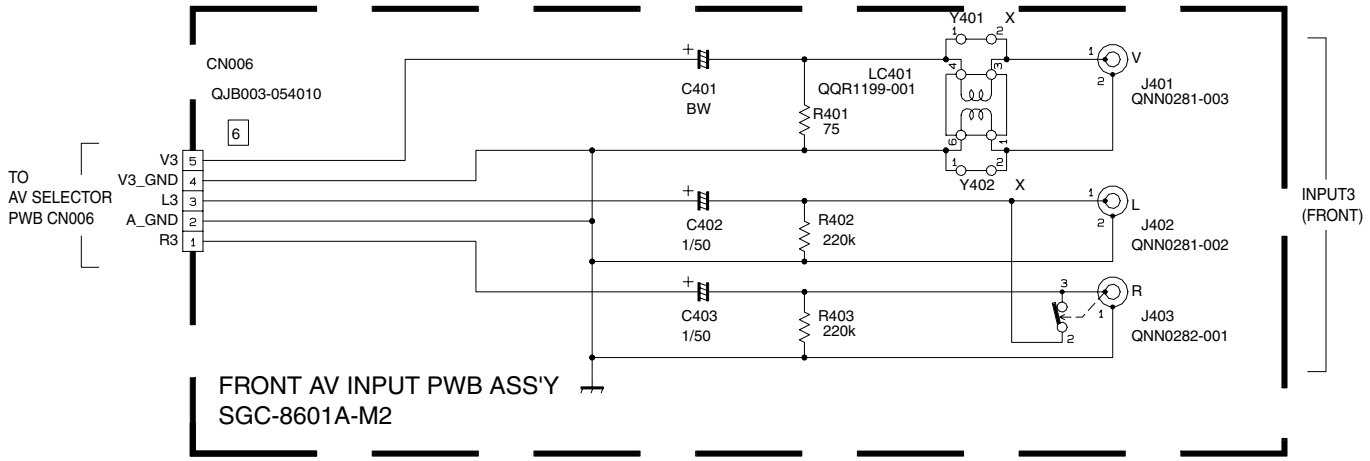
*3 : 1SS133-T2
BW : IM-BW
X : NON MOUNT

FRONT CONTROL AND FRONT AV INPUT PWB CIRCUIT DIAGRAMS

-FRONT CONTROL-



-FRONT AV INPUT-



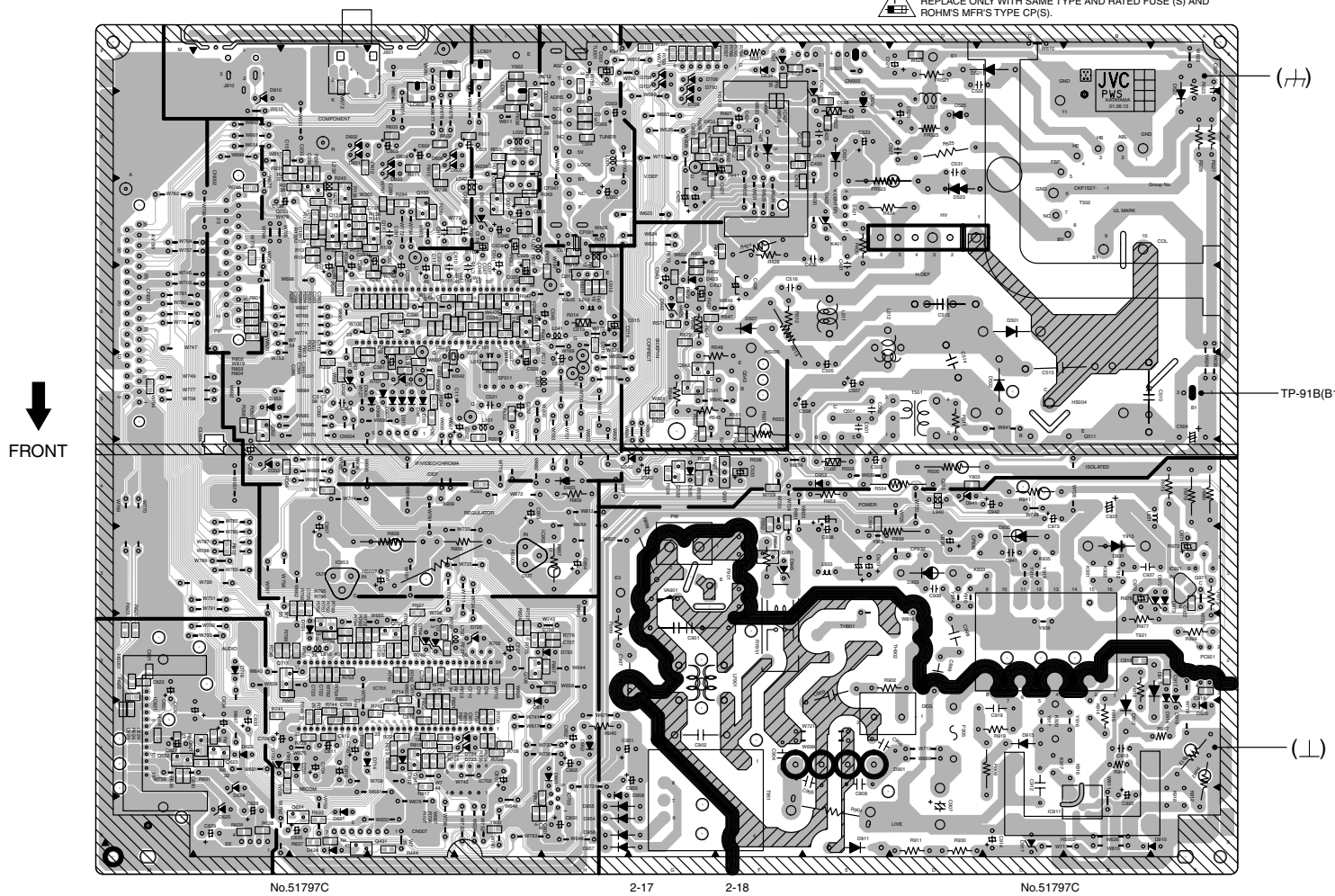
NOTE

X : NON MOUNT

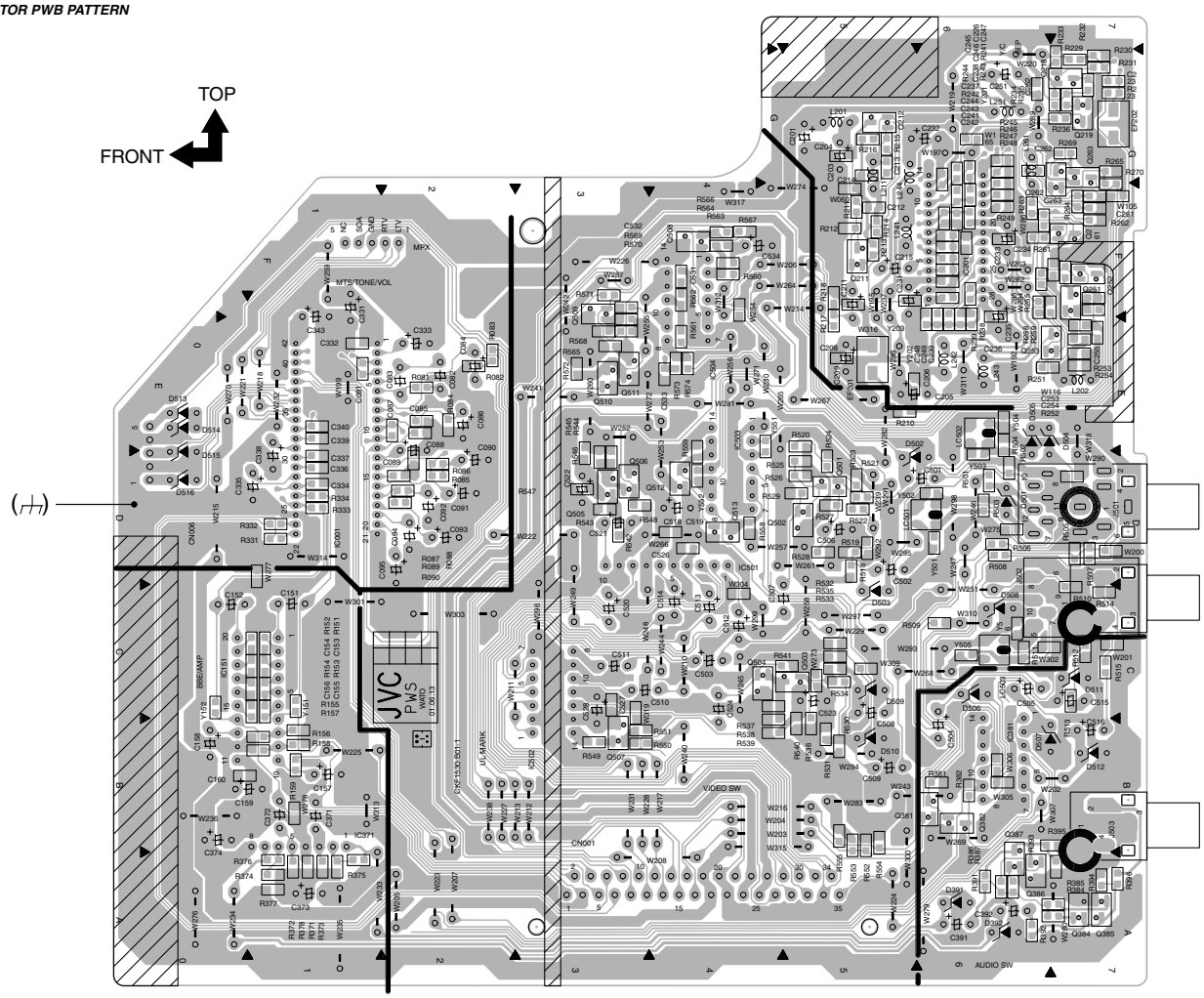
PATTERN DIAGRAMS

MAIN PWB PATTERN

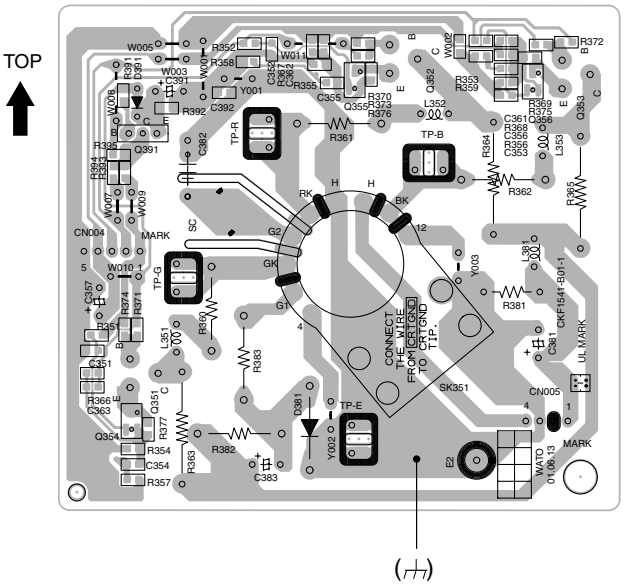
CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE AND RATED FUSE (S) AND ROHM'S MFR'S TYPE CP(S).



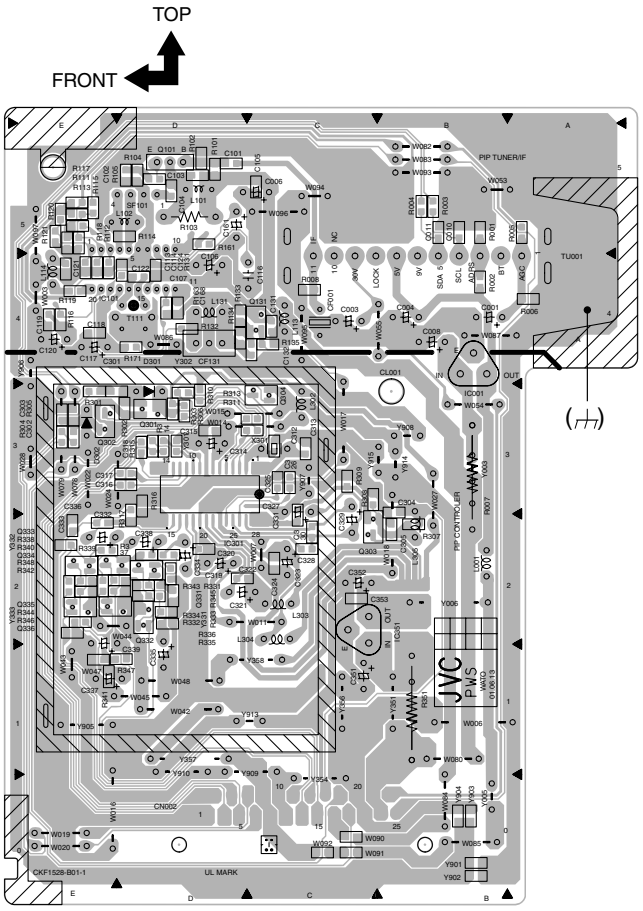
AV SELECTOR PWB PATTERN



CRT SOCKET PWB PATTERN

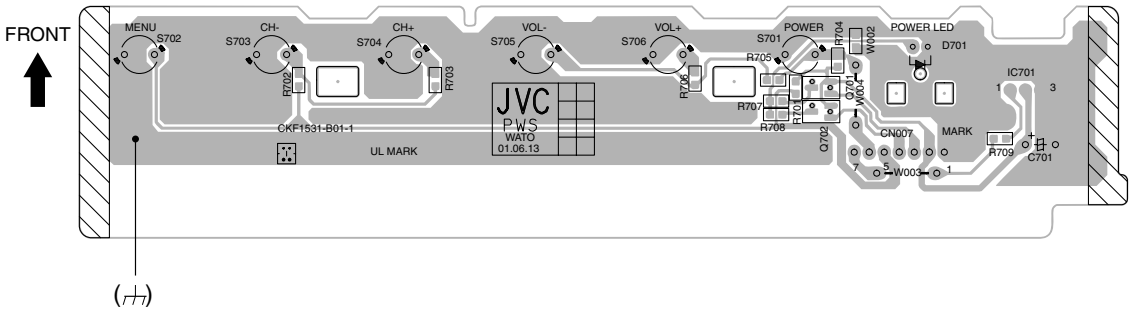


PIP PWB PATTERN

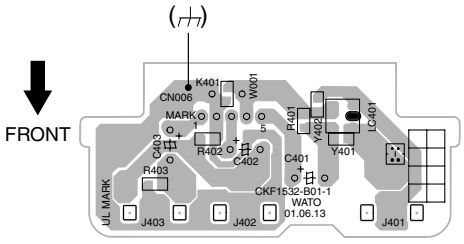


FRONT CONTROL AND FRONT AV INPUT PWB PATTERNS

- FRONT CONTROL -



- FRONT AV INPUT -



CHANNEL CHART (US)

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
○	○	VL	02		I
			03		
			04		
			05		
			06		
		VH	07		II
			08		
			09		
			10		
			11		
			12		
			13		
×	○	MID	A	14	I
			B	15	
			C	16	II
			D	17	
			E	18	
			F	19	
			G	20	
			H	21	
			I	22	
		SUPER	J	23	
			K	24	
			L	25	
			M	26	
			N	27	
			O	28	
			P	29	
			Q	30	
			R	31	
			S	32	
			T	33	
			U	34	
			V	35	
			W	36	
		HYPER	W+1	37	
			W+2	38	
			W+3	39	
			W+4	40	
			W+5	41	
			W+6	42	
			W+7	43	
			W+8	44	
			W+9	45	
			W+10	46	
			W+11	47	
			W+12	48	IV
			W+13	49	
			W+14	50	
			W+15	51	
			W+16	52	
			W+17	53	
			W+18	54	
			W+19	55	
			W+20	56	
			W+21	57	
			W+22	58	
			W+23	59	
			W+24	60	
			W+25	61	
			W+26	62	
			W+27	63	
			W+28	64	
		ULTRA	W+29	65	
			W+30	66	
			W+31	67	
			W+32	68	
			W+33	69	
			W+34	70	

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
×	○	ULTRA	W+35	71	IV
			W+36	72	
			W+37	73	
			W+38	74	
			W+39	75	
			W+40	76	
			W+41	77	
			W+42	78	
			W+43	79	
			W+44	80	
			W+45	81	
			W+46	82	
			W+47	83	
			W+48	84	
			W+49	85	
			W+50	86	
			W+51	87	
			W+52	88	
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			W+54	90	
			W+55	91	
			W+56	92	
			W+57	93	
			W+58	94	
			W+59	100	
			W+60	101	
			W+61	102	
			W+62	103	
			W+63	104	
			W+64	105	
			W+65	106	
			W+66	107	
			W+67	108	
			W+68	109	
			W+69	110	
			W+70	111	
			W+71	112	
			W+72	113	
			W+73	114	
			W+74	115	
			W+75	116	
			W+76	117	
			W+77	118	
			W+78	119	
			W+79	120	
			W+80	121	
			W+81	122	
			W+82	123	
			W+83	124	
			W+84	125	
		SUB MID	A-8	01	I
			A-4	96	
			A-3	97	
			A-2	98	
			A-1	99	
○	×	UHF	14 ≀ 69		IV

TOTAL 180CH
{ VHF 124CH
{ UHF 56CH

NOTE:
TO RECEIVE THE SUBSCRIPTION OR PREMIUM PROGRAMMING FROM CERTAIN CABLE COMPANIES.
SPECIAL ADAPTERS MAY BE REQUIRED.

CHANNEL CHART (CA)

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
○	○	VL	02 03 04 05 06		I
		VH	07 08 09 10 11 12 13		II
×	○	MID	A B C D E F G H I	14 15 16 17 18 19 20 21 22	
		SUPER	J K L M N O	23 24 25 26 27 28	
			P Q R S T U V W	29 30 31 32 33 34 35 36	III
		HYPER	W+1 W+2 W+3 W+4 W+5 W+6 W+7 W+8 W+9 W+10 W+11 W+12 W+13 W+14 W+15 W+16 W+17 W+18 W+19 W+20 W+21 W+22 W+23 W+24 W+25 W+26 W+27 W+28	37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64	
		ULTRA	W+29	65	
			W+30 W+31 W+32 W+33 W+34	66 67 68 69 70	IV

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
×	○	ULTRA	W+35 W+36 W+37 W+38 W+39 W+40 W+41 W+42 W+43 W+44 W+45 W+46 W+47 W+48 W+49 W+50 W+51 W+52 W+53 W+54 W+55 W+56 W+57 W+58 W+59 W+60 W+61 W+62 W+63 W+64 W+65 W+66 W+67 W+68 W+69 W+70 W+71 W+72 W+73 W+74 W+75 W+76 W+77 W+78 W+79 W+80 W+81 W+82 W+83 W+84	71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125	IV
		SUB MID	A-8 A-4	01 96	I
			A-3 A-2 A-1	97 98 99	II
○	×	UHF	14 〜 69		IV

TOTAL 180CH
{ VHF 124CH
{ UHF 56CH

NOTE:
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Vancouver	:	13040 Worster Court Richmond B.C. V6V 2B3	(604)270-1311

JVC®

AV27D502AR-UCM #4
AV27D502AS-UCM #4

Printed in Japan
VP0112
SW

JVC

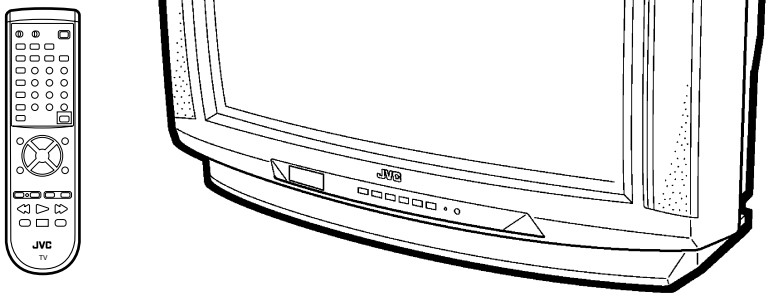
SCHEMATIC DIAGRAMS

COLOR TELEVISION

BASIC CHASSIS
AC

AV-27D502 /R
AV-27D502 /S

CD-ROM No. SML200103



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No. 51797
Mar. 2001

AV-27D502 /R
AV-27D502 /S STANDARD CIRCUIT DIAGRAM

■ NOTE ON USING CIRCUIT DIAGRAMS

1. SAFETY

The components identified by the ⚠ symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

2. SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

(1) Input signal : Color bar signal
(2) Setting positions of each knob/button and variable resistor : Original setting position when shipped
(3) Internal resistance of tester : DC 20kΩ/V
(4) Oscilloscope sweeping time : H ⇒ 20μS/div
: V ⇒ 5mS/div
: Others ⇒ Sweeping time is specified
(5) Voltage values : All DC voltage values

∗Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3. INDICATION OF PARTS SYMBOL [EXAMPLE]

● In the PW board : R1209 → R209

4. INDICATIONS ON THE CIRCUIT DIAGRAM

(1) Resistors

● Resistance value

No unit	: [Ω]
k	: [kΩ]
M	: [MΩ]

● Rated allowable power

No indication	: 1/10 [W]
Others	: As specified

● Type

No indication	: Carbon resistor
OMR	: Oxide metal film resistor
MFR	: Metal film resistor
MPR	: Metal plate resistor
UNFR	: Uninflammable resistor
FR	: Fusible resistor

∗Composition resistor 1/2 [W] is specified as 1/2S or Comp.

(2) Capacitors

● Capacitance value

1 or higher	: [pF]
less than 1	: [μF]

● Withstand voltage

No indication	: DC50[V]
AC indicated	: AC withstand voltage [V]
Others	: DC withstand voltage [V]

∗ Electrolytic Capacitors
47/50[Example] : Capacitance value [μF]/withstand voltage[V]

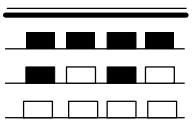
● Type

No indication	: Ceramic capacitor
MY	: Mylar capacitor
MM	: Metalized mylar capacitor
PP	: Polypropylene capacitor
MPP	: Metalized polypropylene capacitor
MF	: Metalized film capacitor
TF	: Thin film capacitor
BP	: Bipolar electrolytic capacitor
TAN	: Tantalum capacitor

(3) Coils

No unit	: [μH]
Others	: As specified

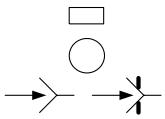
(4) Power Supply



∗Respective voltage values are indicated

(5) Test point

(6) Connecting method



(7) Ground symbol

⊥ : LIVE side ground
⏥ : ISOLATED(NEUTRAL) side ground
⏚ : EARTH ground
⏛ : DIGITAL ground

5. NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND and the ISOLATED(NEUTRAL) : (⏥) side GND. Therefore, care must be taken for the following points.

(1) Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.
(2) Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected , a fuse or any parts will be broken.

● **Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.**

Mar. 2001 No. 51797

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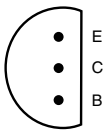
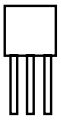
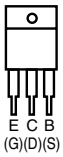
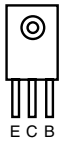
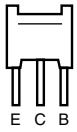
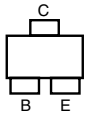
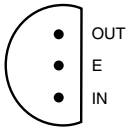
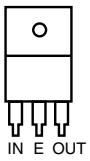
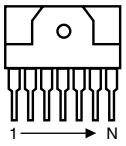
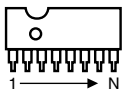
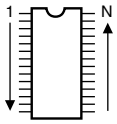
SEMICONDUCTOR SHAPES

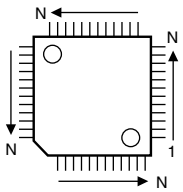
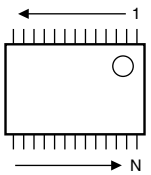
TRANSISTOR

BOTTOM VIEW	FRONT VIEW				TOP VIEW
					CHIP TR 

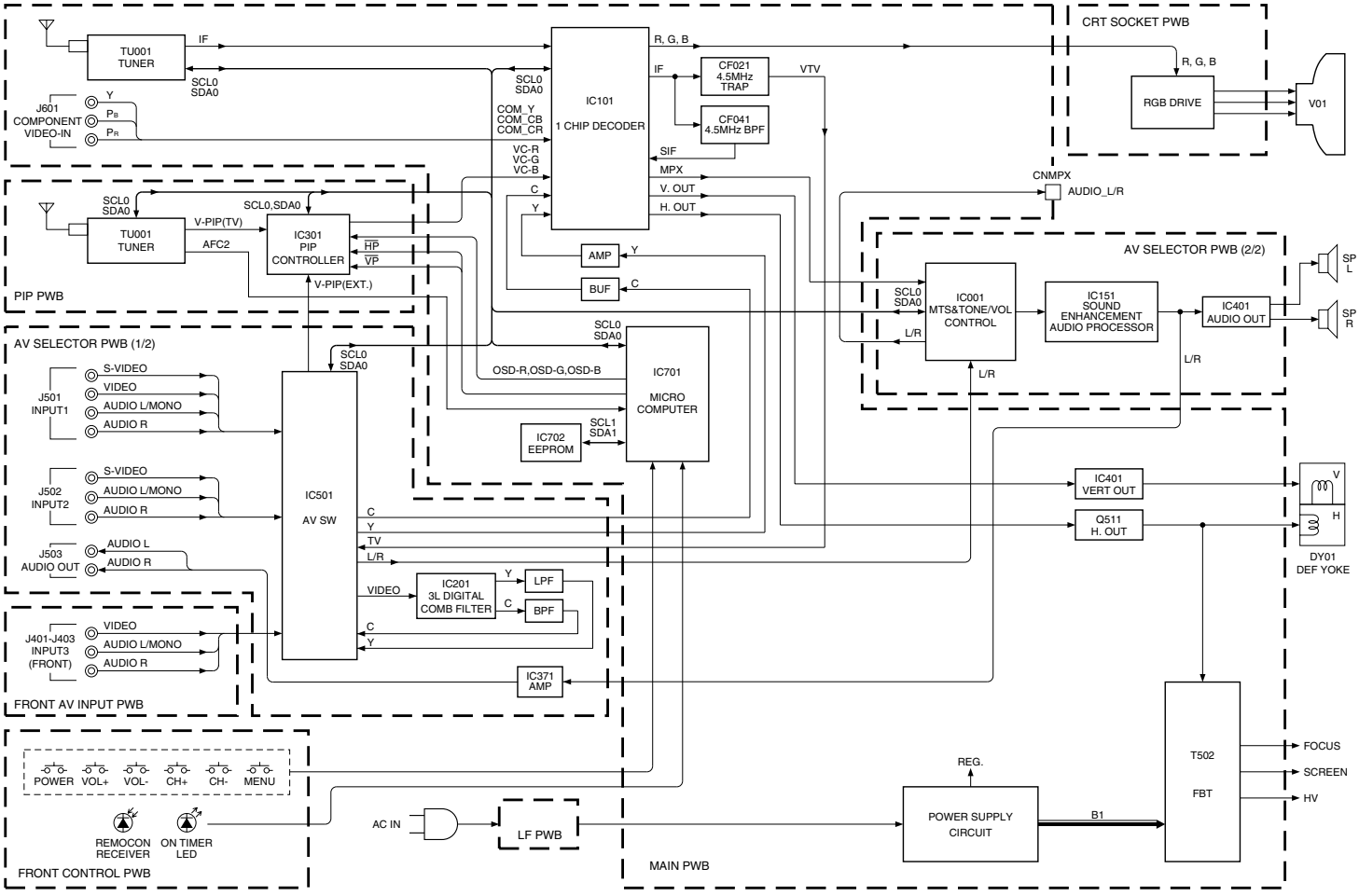
IC

BOTTOM VIEW	FRONT VIEW			TOP VIEW
				

CHIP IC

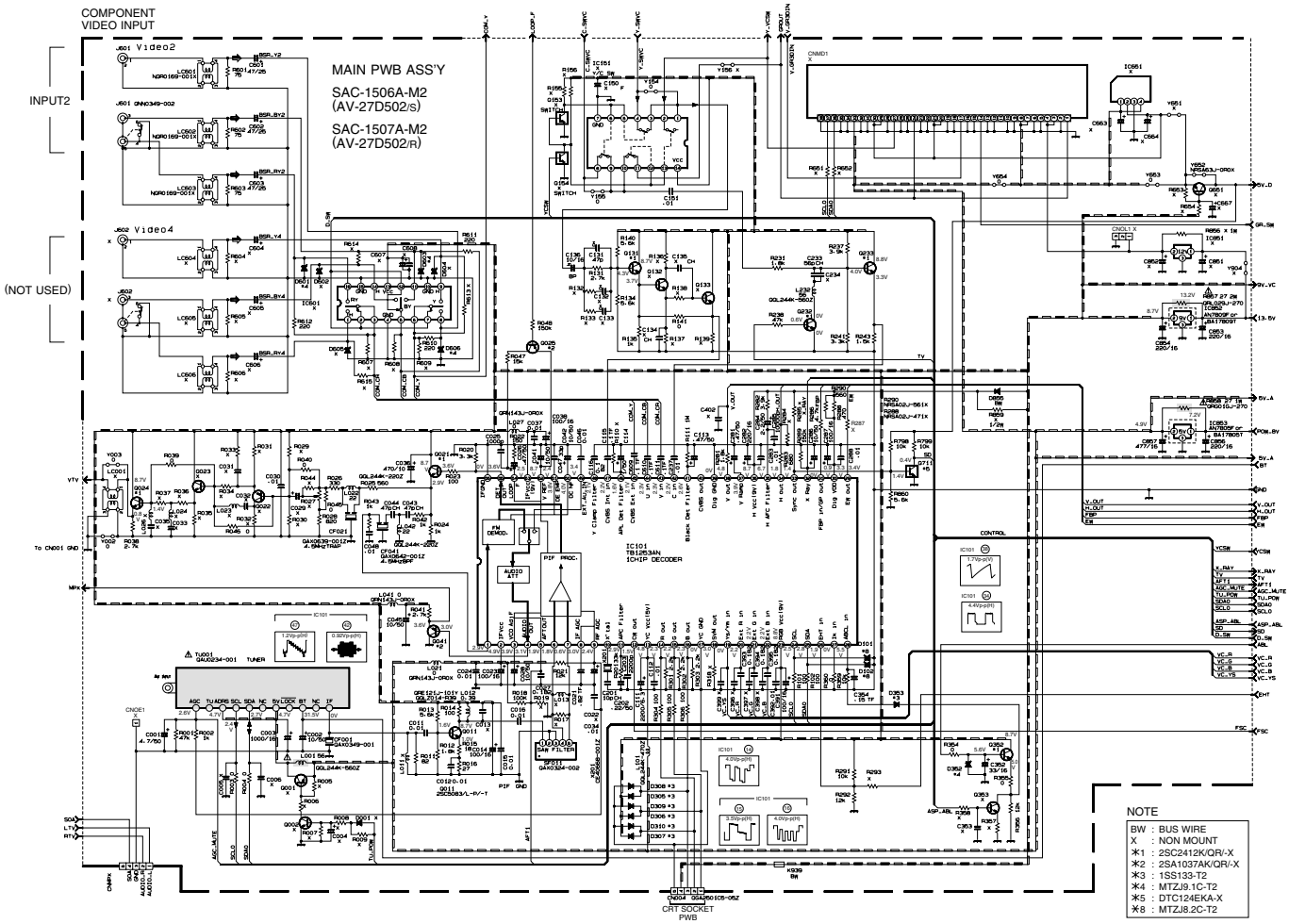
TOP VIEW		
		

BLOCK DIAGRAM

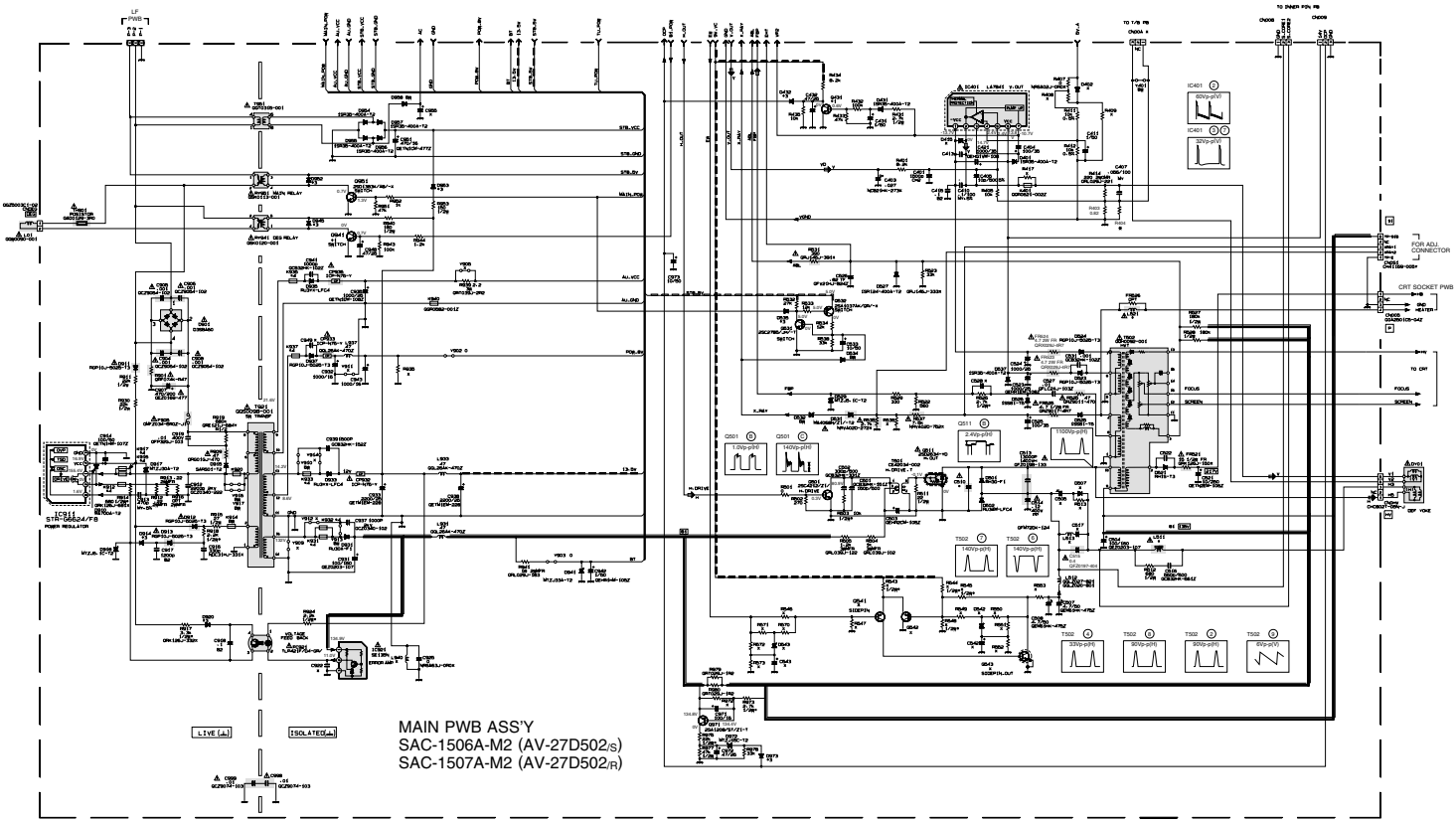


CIRCUIT DIAGRAMS

MAIN PWB CIRCUIT DIAGRAM



MAIN PWB CIRCUIT DIAGRAM



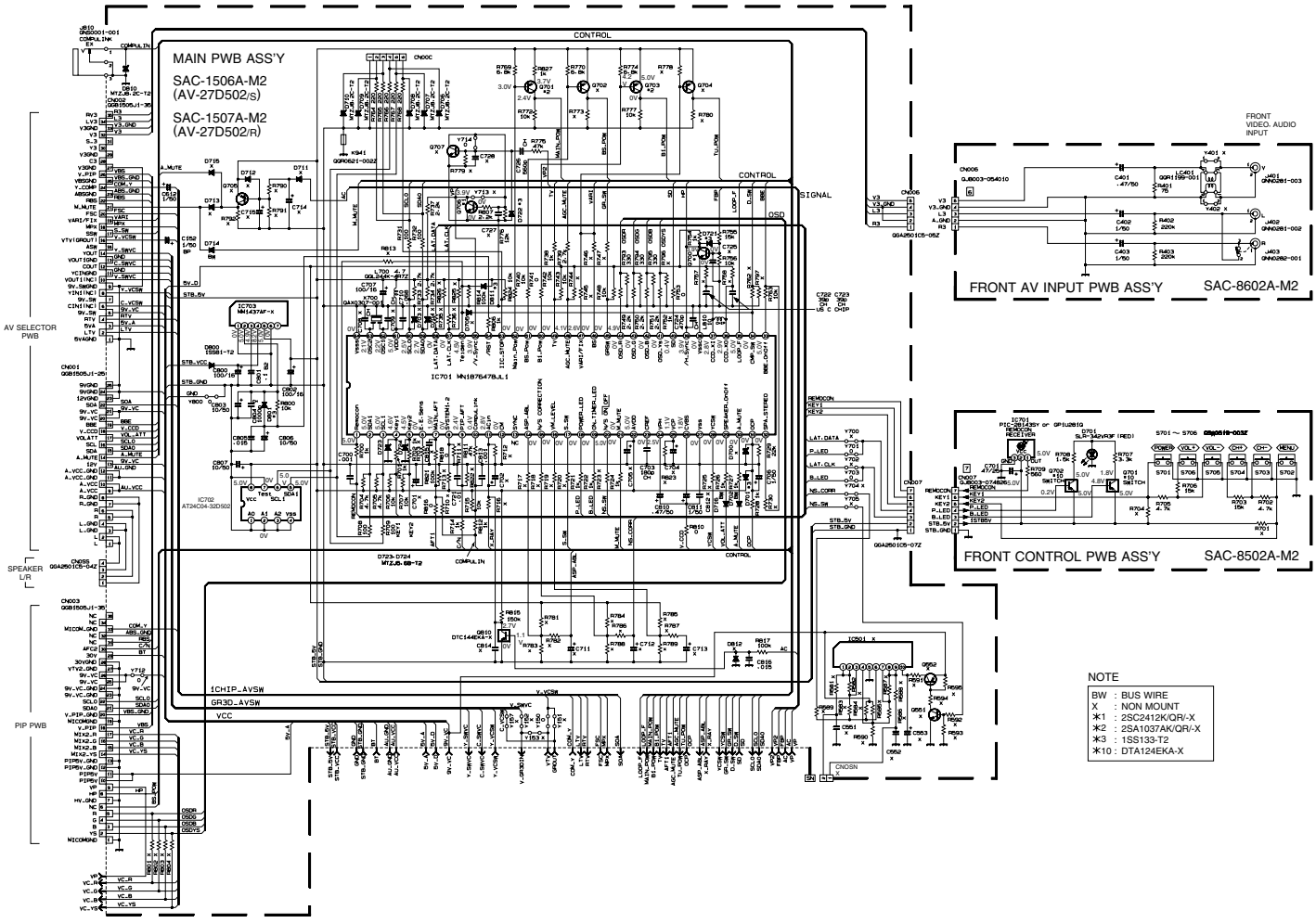
✳DIFFERENCE LIST (✳PARTS)

	R404	⚠ L511	⚠ L521	⚠ C510
SAC-1506A-M2	NOT USED	QQR1027-004	88#S#H QQLZ026-880	4500pF QFZ0196-452
SAC-1507A-M2	10#?# QRE121J-100Y	QQR1027-002	43#S#H QQLZ026-430	3500pF QFZ0196-352

NOTE

BW : BUS WIRE
X : NON MOUNT
✳1 : 2SC2412K/QR/-X
✳2 : 2SA1037AK/QR/-X
✳3 : 1SS133-T2
✳4 : QQR0582-001Z

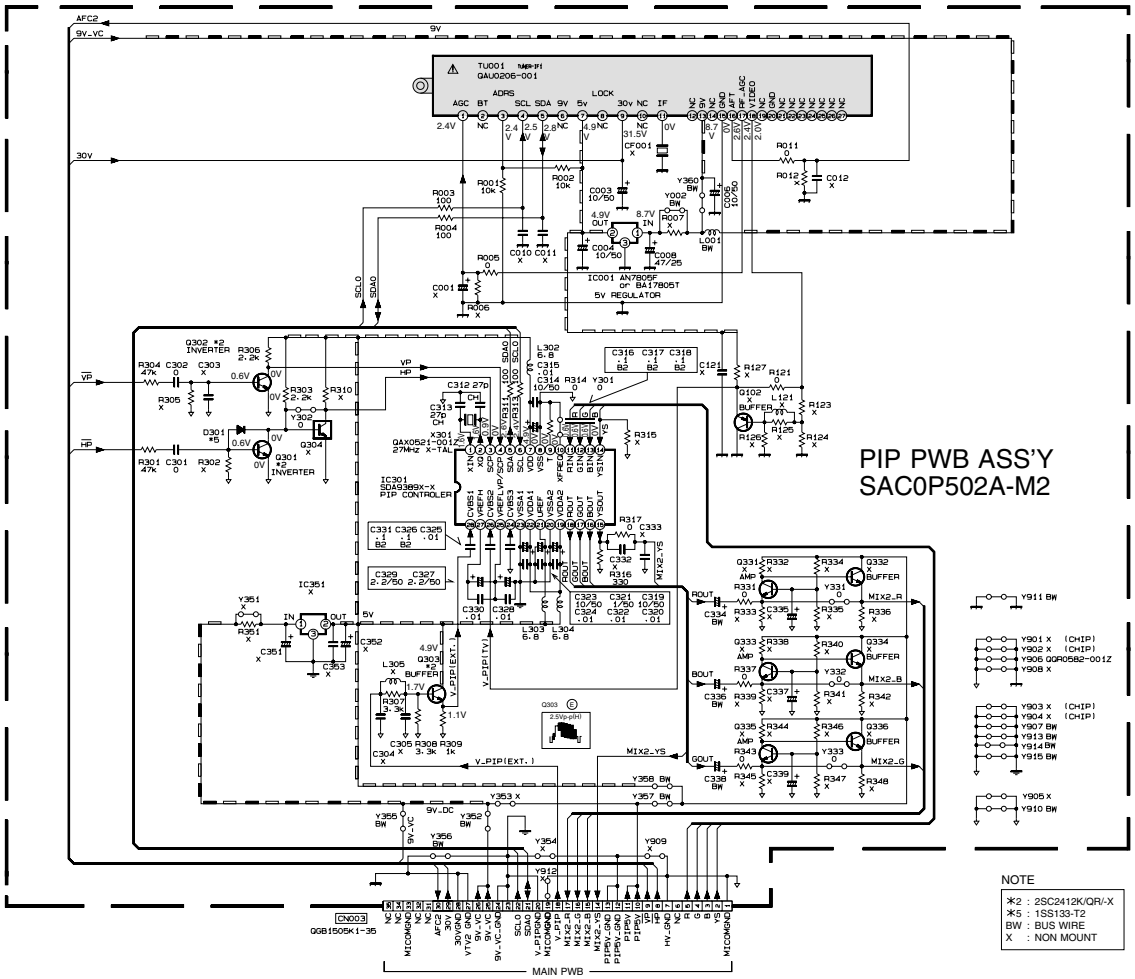
MAIN, FRONT CONTROL AND FRONT AV INPUT PWB CIRCUIT DIAGRAMS



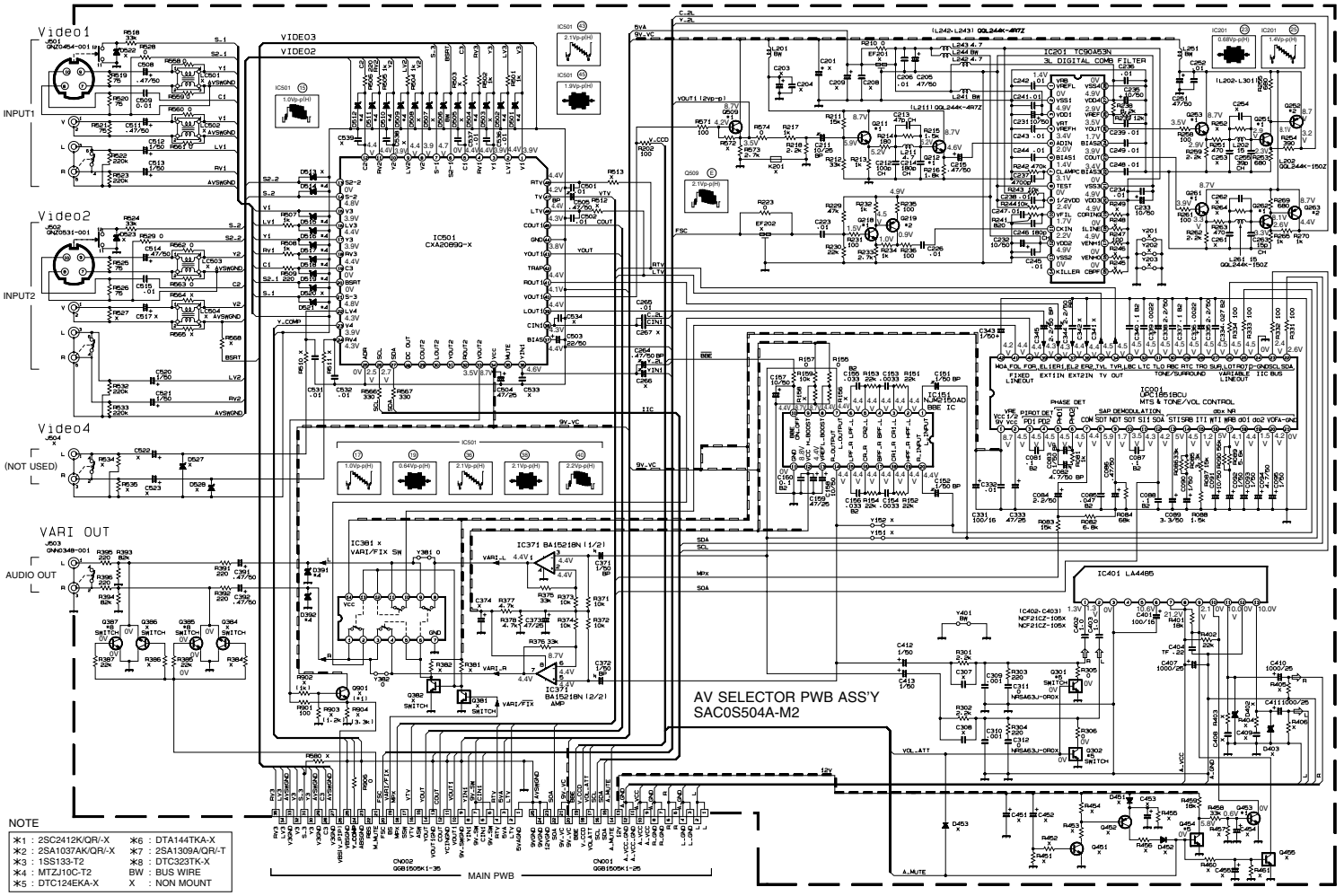
NOTE

BW	: BUS WIRE
X	: NON MOUNT
✻1	: 2SC2412K(QR/-X
✻2	: 2SA1037AK/QR/-X
✻3	: 1SS133-T2
✻10	: DTA124EKA-X

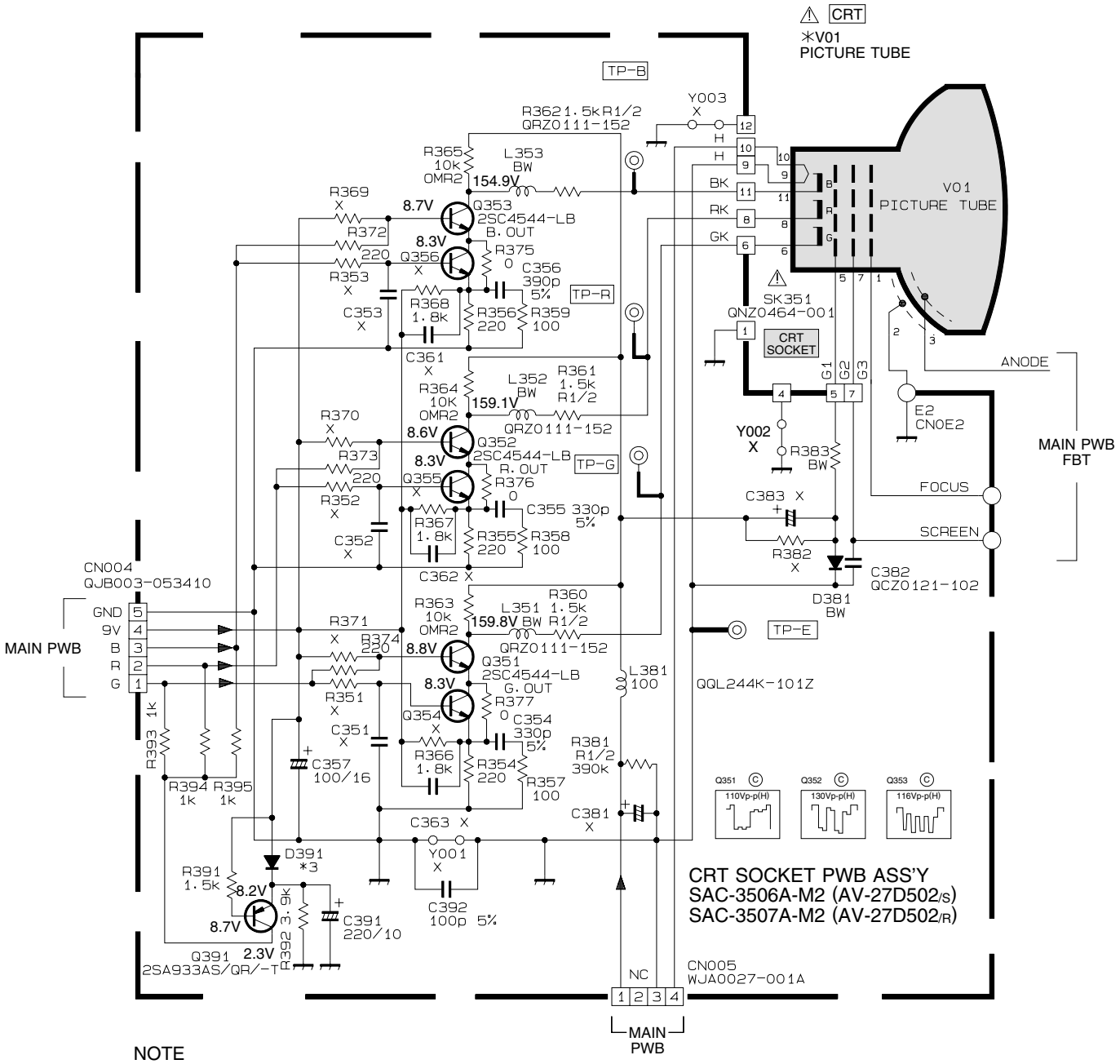
PIP PWB CIRCUIT DIAGRAM



AV SELECTOR PWB CIRCUIT DIAGRAM



CRT SOCKET PWB CIRCUIT DIAGRAM



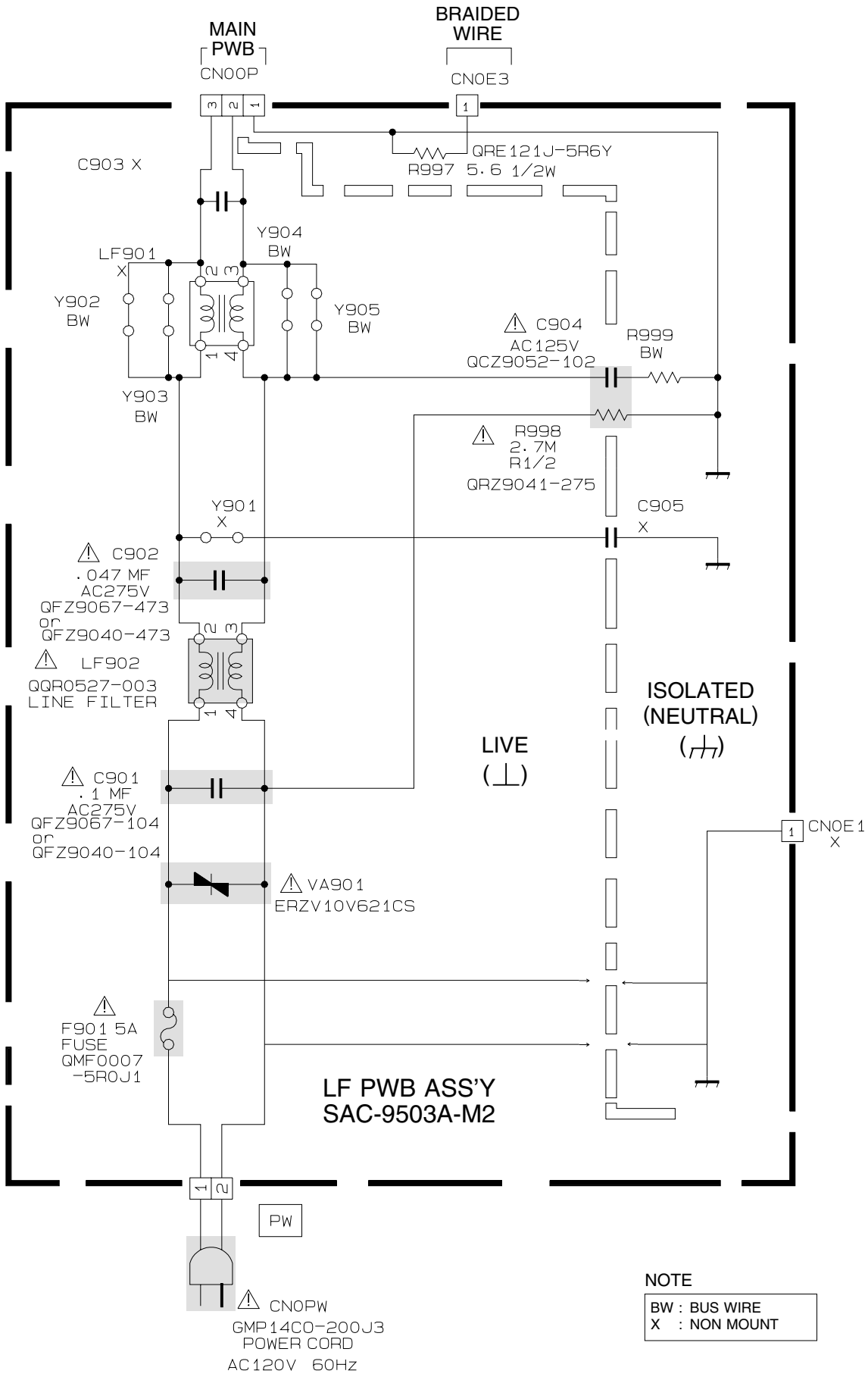
NOTE

BW : BUS WIRE X : NON MOUNT ✳3 : 1SS133-T2

✳DIFFERENCE LIST (✳PARTS)

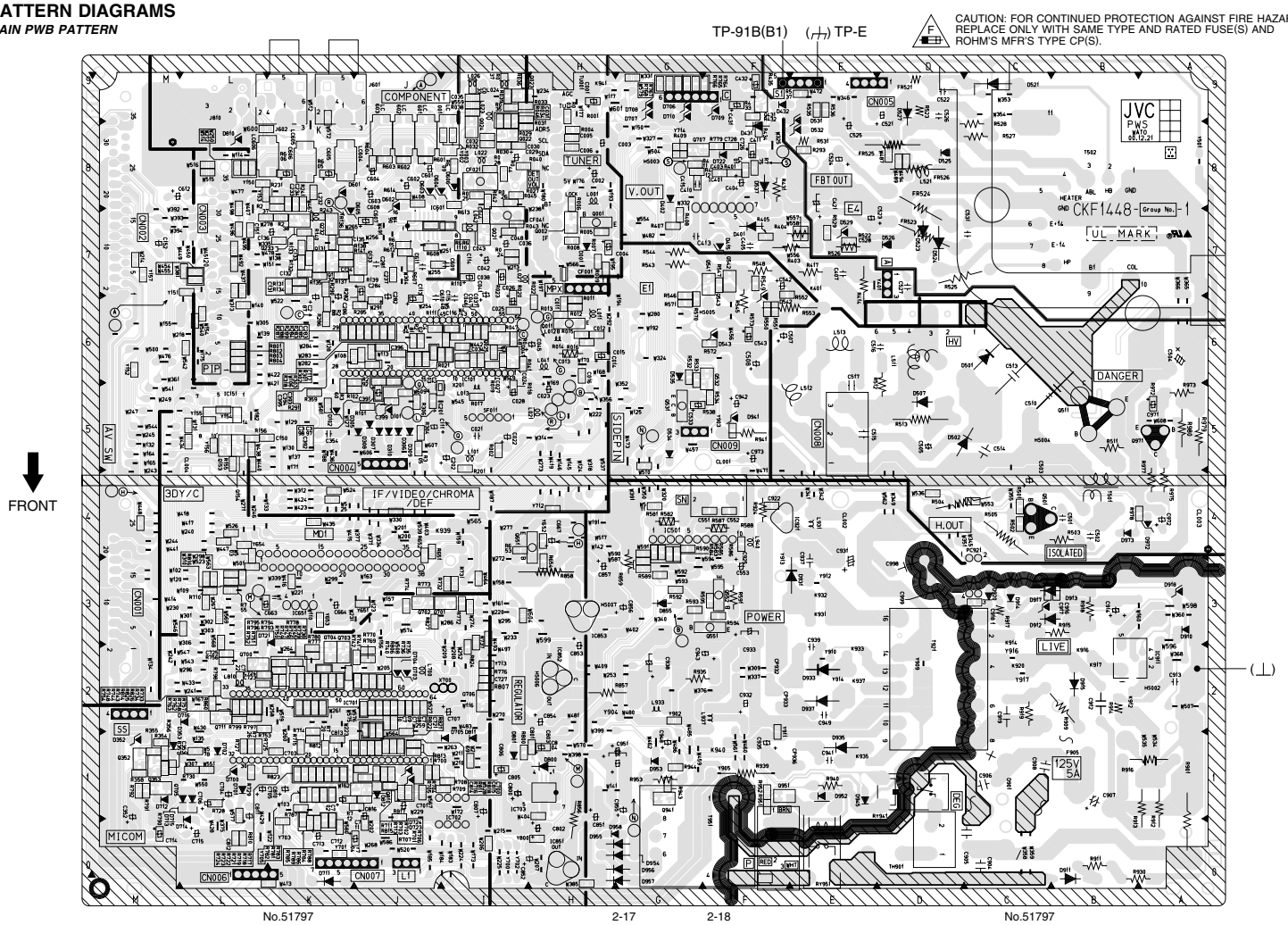
	⚠ V01 (PICTURE TUBE)
SAC-3506A-M2	A68QDN891X001
SAC-3507A-M2	AD68ADT25X01

LF PWB CIRCUIT DIAGRAM

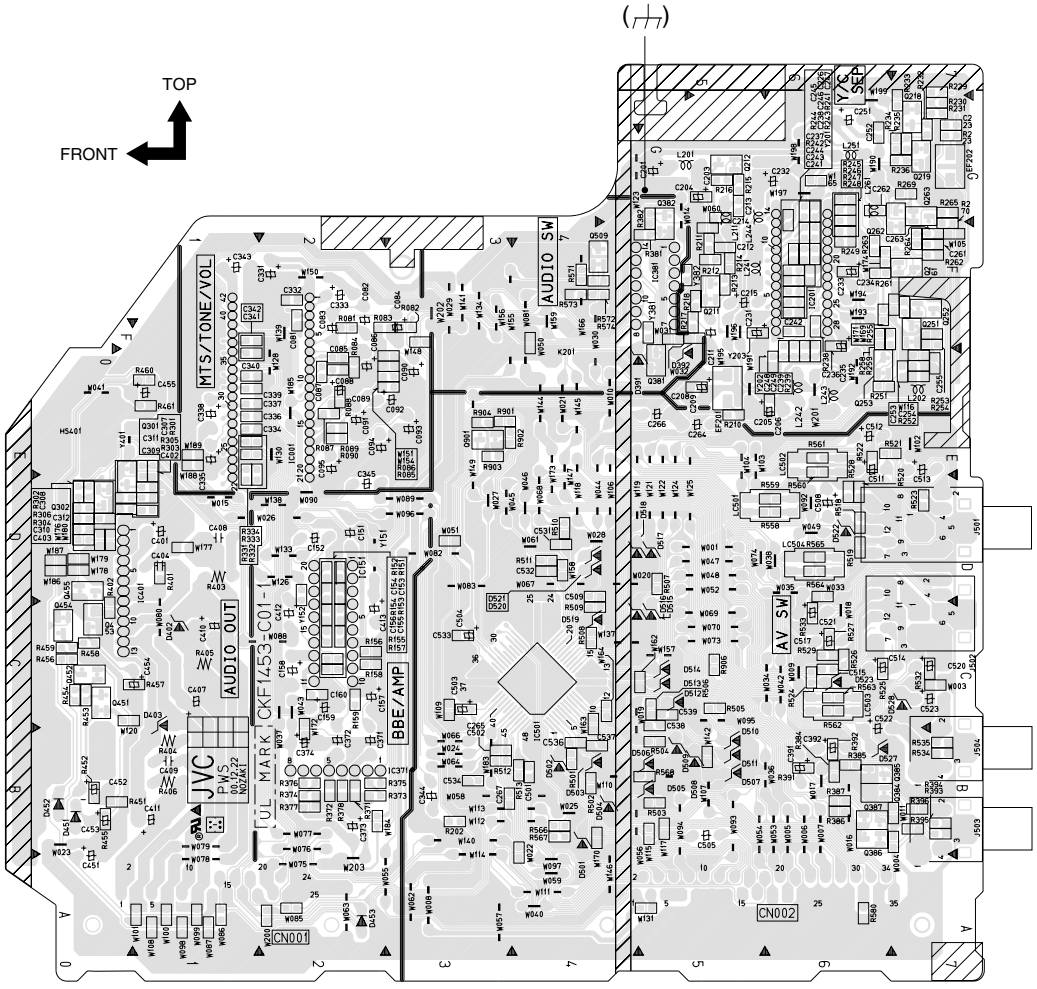


PATTERN DIAGRAMS

MAIN PWB PATTERN

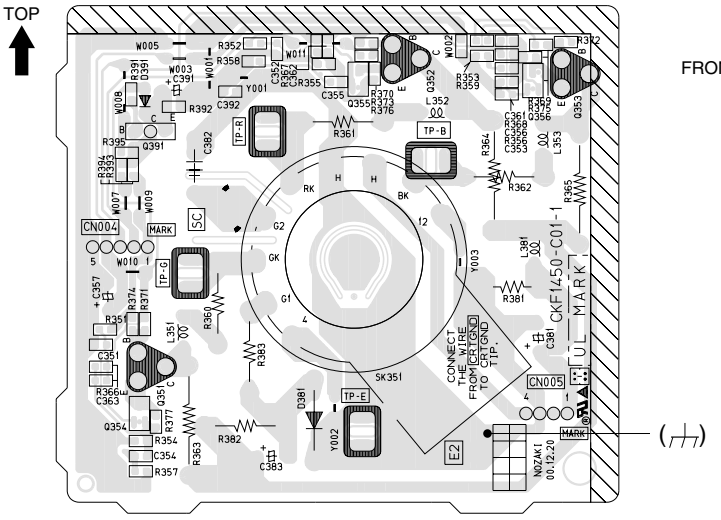


AV SELECTOR PWB PATTERN

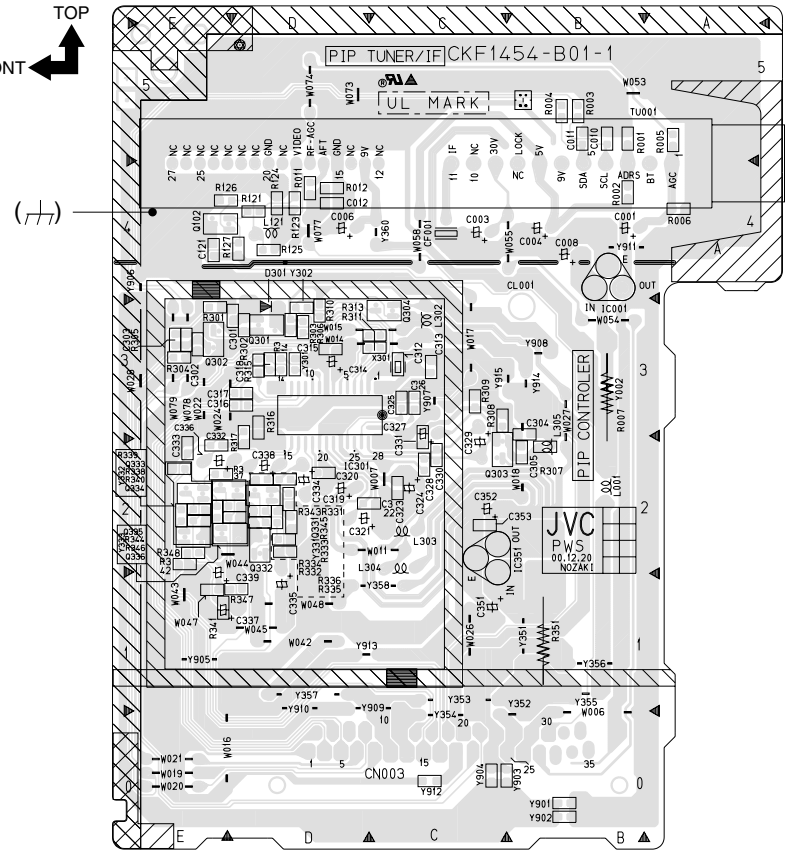


CRT SOCKET AND PIP PWB PATTERNS

– CRT SOCKET –

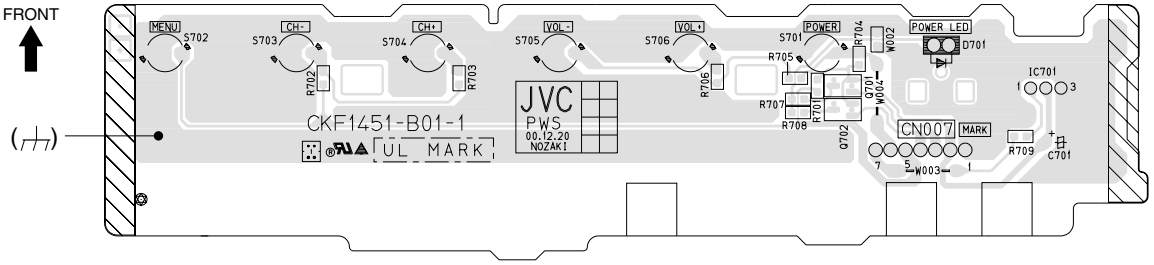


– PIP –

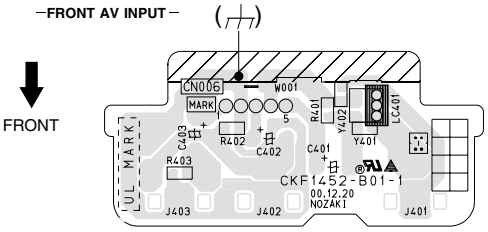


FRONT CONTROL, FRONT AV INPUT AND LF PWB PATTERNS

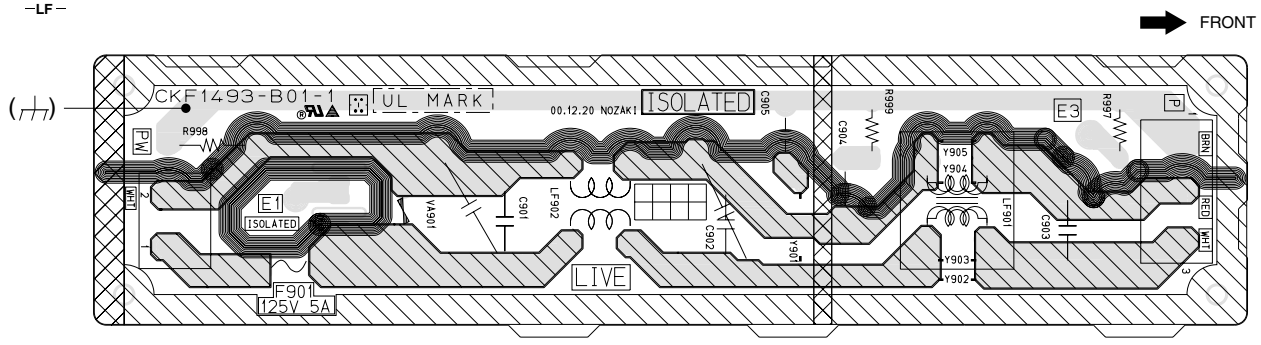
–FRONT CONTROL–



–FRONT AV INPUT–



–LF–



CHANNEL CHART (US)

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
○	○	VL	02		I
			03		
			04		
			05		
			06		
		VH	07		II
			08		
			09		
			10		
			11		
			12		
			13		
×	○	MID	A	14	I
			B	15	
			C	16	II
			D	17	
			E	18	
			F	19	
			G	20	
			H	21	
			I	22	
		SUPER	J	23	
			K	24	
			L	25	
			M	26	
			N	27	
			O	28	
			P	29	
			Q	30	
			R	31	
			S	32	
			T	33	
			U	34	
			V	35	
			W	36	
		HYPER	W+1	37	
			W+2	38	
			W+3	39	
			W+4	40	
			W+5	41	
			W+6	42	
			W+7	43	
			W+8	44	
			W+9	45	
			W+10	46	
			W+11	47	
			W+12	48	IV
			W+13	49	
			W+14	50	
			W+15	51	
			W+16	52	
			W+17	53	
			W+18	54	
			W+19	55	
			W+20	56	
			W+21	57	
			W+22	58	
			W+23	59	
			W+24	60	
			W+25	61	
			W+26	62	
			W+27	63	
			W+28	64	
		ULTRA	W+29	65	
			W+30	66	
			W+31	67	
			W+32	68	
			W+33	69	
			W+34	70	

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
×	○	ULTRA	W+35	71	IV
			W+36	72	
			W+37	73	
			W+38	74	
			W+39	75	
			W+40	76	
			W+41	77	
			W+42	78	
			W+43	79	
			W+44	80	
			W+45	81	
			W+46	82	
			W+47	83	
			W+48	84	
			W+49	85	
			W+50	86	
			W+51	87	
			W+52	88	
			W+53	89	
			W+54	90	
			W+55	91	
			W+56	92	
			W+57	93	
			W+58	94	
			W+59	100	
			W+60	101	
			W+61	102	
			W+62	103	
			W+63	104	
			W+64	105	
			W+65	106	
			W+66	107	
			W+67	108	
			W+68	109	
			W+69	110	
			W+70	111	
			W+71	112	
			W+72	113	
			W+73	114	
			W+74	115	
			W+75	116	
			W+76	117	
			W+77	118	
			W+78	119	
			W+79	120	
			W+80	121	
			W+81	122	
			W+82	123	
			W+83	124	
			W+84	125	
		SUB MID	A-8	01	I
			A-4	96	
			A-3	97	
			A-2	98	
			A-1	99	
○	×	UHF	14 ≀ 69		IV

TOTAL 180CH
{ VHF 124CH
{ UHF 56CH

NOTE:
TO RECEIVE THE SUBSCRIPTION OR PREMIUM PROGRAMMING FROM CERTAIN CABLE COMPANIES.
SPECIAL ADAPTERS MAY BE REQUIRED.

CHANNEL CHART (CA)

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
○	○	VL	02 03 04 05 06		I
		VH	07 08 09 10 11 12 13		II
×	○	MID	A B C D E F G H I	14 15 16 17 18 19 20 21 22	
		SUPER	J K L M N O	23 24 25 26 27 28	
			P Q R S T U V W	29 30 31 32 33 34 35 36	III
		HYPER	W+1 W+2 W+3 W+4 W+5 W+6 W+7 W+8 W+9 W+10 W+11 W+12 W+13 W+14 W+15 W+16 W+17 W+18 W+19 W+20 W+21 W+22 W+23 W+24 W+25 W+26 W+27 W+28	37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64	
		ULTRA	W+29	65	
			W+30 W+31 W+32 W+33 W+34	66 67 68 69 70	IV

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
×	○	ULTRA	W+35 W+36 W+37 W+38 W+39 W+40 W+41 W+42 W+43 W+44 W+45 W+46 W+47 W+48 W+49 W+50 W+51 W+52 W+53 W+54 W+55 W+56 W+57 W+58 W+59 W+60 W+61 W+62 W+63 W+64 W+65 W+66 W+67 W+68 W+69 W+70 W+71 W+72 W+73 W+74 W+75 W+76 W+77 W+78 W+79 W+80 W+81 W+82 W+83 W+84	71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125	IV
		SUB MID	A-8 A-4	01 96	I
			A-3 A-2 A-1	97 98 99	II
○	×	UHF	14 〜 69		IV

TOTAL 180CH
{ VHF 124CH
{ UHF 56CH

NOTE:
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SPECIAL ADAPTERS MAY BE REQUIRED.

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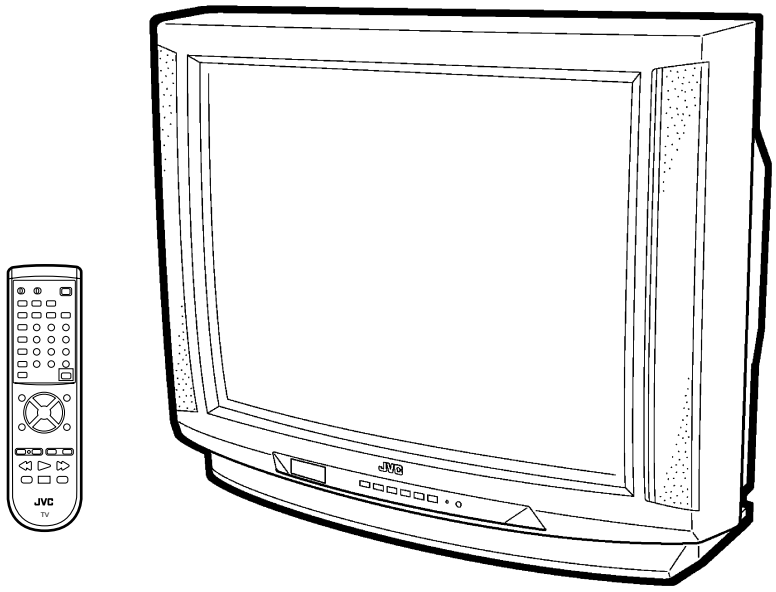
COLOR TELEVISION

BASIC CHASSIS
GC

AV-27D502 /AR
AV-27D502 /AS



CONTENTS

- ■ SAFETY PRECAUTIONS
- ■ SERVICE ADJUSTMENTS
- ★ OPERATING INSTRUCTIONS (APPENDED)
- ★ STANDARD CIRCUIT DIAGRAM (APPENDED)

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No. 51797B
Oct. 2001

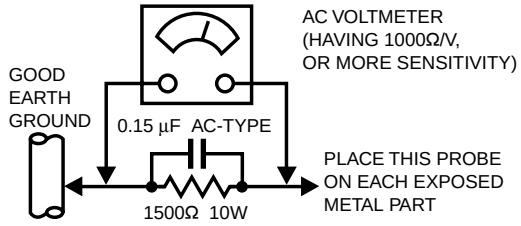
SAFETY PRECAUTIONS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (⚠) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
4. **Use isolation transformer when hot chassis.**
   The chassis and any sub-chassis contained in some products are connected to one side of the AC power line. An isolation transformer of adequate capacity should be inserted between the product and the AC power supply point while performing any service on some products when the HOT chassis is exposed.
5. **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**
   Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED(NEUTRAL) : (⏚) side GND and EARTH : (⏚) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.
   If above note will not be kept, a fuse or any parts will be broken.
6. If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
7. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
8. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.
9. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.
10. **Isolation Check**
    (Safety for Electrical Shock Hazard)
    After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

(1) **Dielectric Strength Test**
The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 1100V AC (r.m.s.) for a period of one second.
(. . . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)
This method of test requires a test equipment not generally found in the service trade.

(2) **Leakage Current Check**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a “Leakage Current Tester”, measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

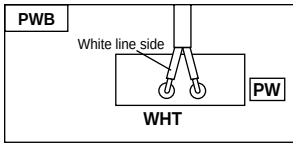
● **Alternate Check Method**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15µF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



11. **High voltage hold down circuit check.**
    After repair of the high voltage hold down circuit, this circuit shall be checked to operate correctly.
    See item **“How to check the high voltage hold down circuit”.**

This mark shows a fast operating fuse, the letters indicated below show the rating.

POWER CORD
REPLACEMENT WARNING
Connecting thr white line side of power cord to “WHT” character side.



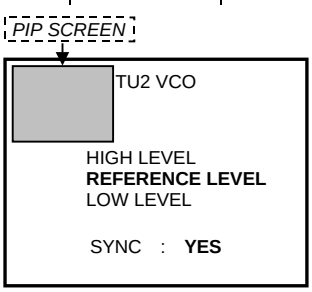
SERVICE ADJUSTMENTS

These models (with A mark) were changed chassis from AV-27D502 (AC chassis).
This content describes only items which differ from those of the base models SERVICE MANUAL.
Please refer to the AV-27D502 SERVICE MANUAL (No.51797 issued Mar. 2001).

ADJUSTMENT STEP

■ PIP VCO [*ADDITION*]

Item	Measuring instrument	Test point	Adjustment part	Description
PIP VCO adjustment			**PIP VCO transf. (T111) [PIP]**	1. Set the PIP mode. 2. Receive the ordinary broadcast signal. 3. Select “TU2 VCO” of the SERVICE MENU. 4. Confirm [SYNC] to “YES”. 5. Turn the PIP VCO transformer to where “REFERENCE LEVEL” characters are yellow. ✻ When finished, confirm [SYNC] to “YES” again.



■ FOCUS [*CHANGE*]

Item	Measuring instrument	Test point	Adjustment part	Description
FOCUS adjustment	**Signal generator**		**FOCUS VR [HVT]**	● Set the VIDEO STATUS to “STANDARD”. ● When makes difference by FOCUS adjustment, should be recommending CONVERGENCE and PURITY adjustments. 1. Receive a crosshatch signal. 2. White looking at the screen center, adjust the FOCUS VR so that be clear and in fine detail. 3. Make sure that the picture is in focus even when the screen gets darkness.

■ V POSITION & V SIZE [*CHANGE*]

Item	Measuring instrument	Test point	Adjustment part	Description
V POSITION & V SIZE adjustment	**Signal generator**		**V CENTER SW (S421)** **No.71 : V POSI** **No.66 : V SIZE** **No.78 : TRAPEZ** **No.65 : V LIN**	1. Receive a crosshatch signal. 2. Set the No.71: V POSI to “0”. 3. Adjust the V CENTER SW and No.66: V SIZE to the vertical size is 92%. 4. Confirm the vertical lines to be straight. If it is not straight, adjust to be straight at the No.78: TRAPEZ. 5. Confirm upper and lower of the screen. If it is not symmetrical, adjust to be symmetrical at the No.65: V LIN.

■ SUB COLOR [*CHANGE*]

Model	A [V_{W-B}]
AV-27D502/AS	**+6V**
AV-27D502/AR	**+7V**

■ SUB TINT [*CHANGE*]

Model	B [V_{W-B}]
AV-27D502/AS	**+9V**
AV-27D502/AR	**+13V**

JVC SERVICE & ENGINEERING COMPANY OF AMERICA

DIVISION OF JVC AMERICAS CORP.

Head office :	1700 Valley Road, Wayne, New Jersey 07470	(973)317-5000
East Coast :	10 New Maple Avenue, Pine Brook, New Jersey 07058	(973)396-1000
Midwest :	705 Enterprise St. Aurora, Illinois 60504	(630)851-7855
West Coast :	5665 Corporate Avenue, Cypress, California 90630	(714)229-8011
Southwest :	10700 Hammerly, Suite 105, Houston,Texas 77043	(713)935-9331
Hawaii :	2969 Mapunapuna Place, Honolulu, Hawaii 96819	(808)833-5828
Southeast :	1500 Lakes Parkway, Lawrenceville, Georgia 30243	(770)339-2582

JVC CANADA INC.

Head office :	21 Finchdene Square Scarborough, Ontario M1X 1A7	(416)293-1311
Vancouver :	13040 Worster Court Richmond B.C. V6V 2B3	(604)270-1311

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PARTS LIST

CAUTION

- The parts identified by the ⚠ symbol are important for the safety . Whenever replacing these parts, be sure to use specified ones to secure the safety .
- The parts not indicated in this Parts List and those which are filled with lines --- in the Parts No. columns will not be supplied .
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied .

ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
HV R	High Voltage Resistor	MF CAP.	Metalized Film Capacitor
MF R	Metal Film Resistor	MM CAP.	Metalized Mylar Capacitor
MG R	Metal Glazed Resistor	MP CAP.	Metalized Polystyrol Capacitor
MP R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
OM R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

RESISTORS									
F	G	J	K	M	N	R	H	Z	P
±1%	±2%	±5%	±10%	±20%	±30%	+30% -10%	+50% -10%	+80% -20%	+100% 0%

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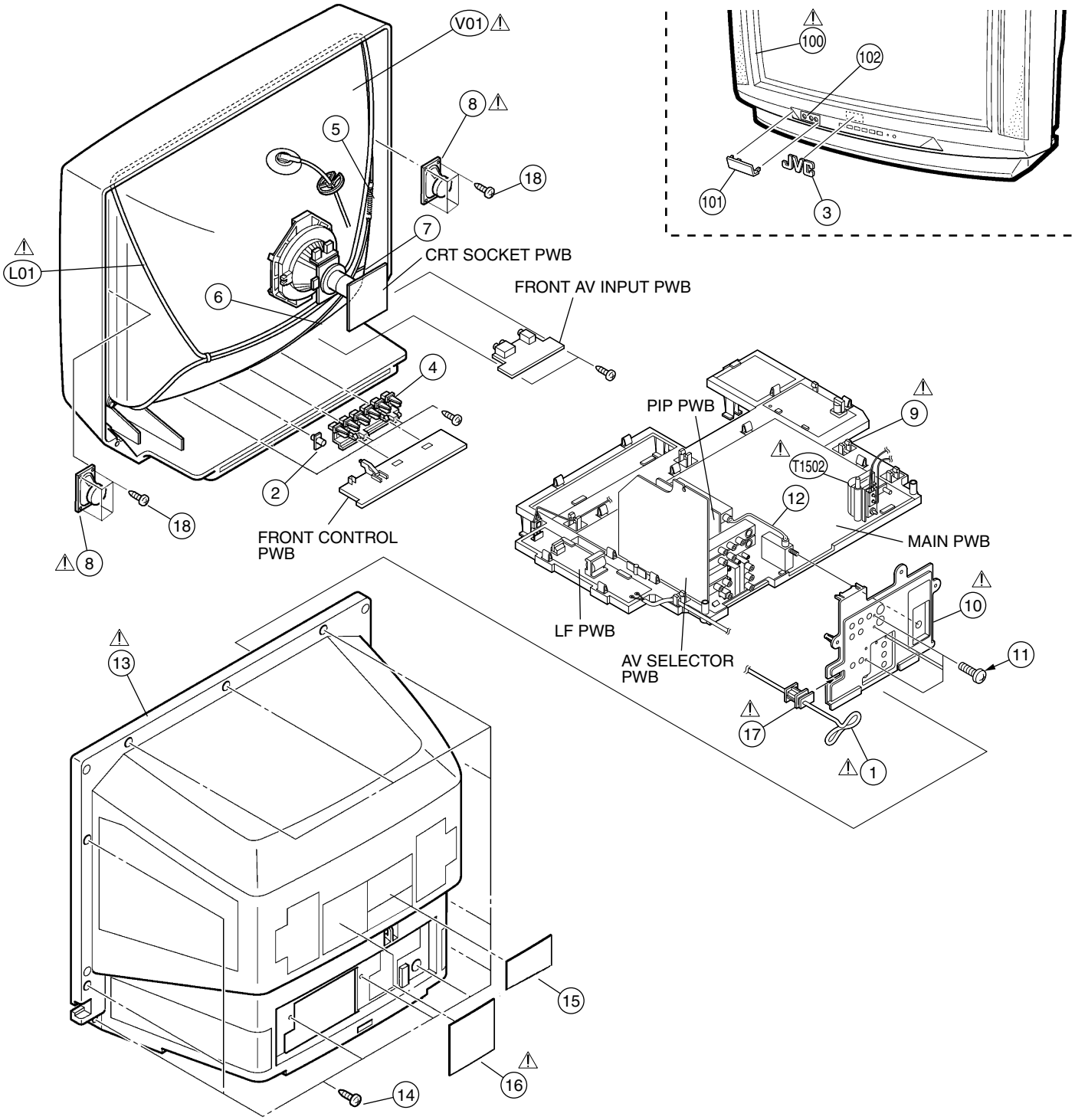
USING P.W. BOARD & REMOTE CONTROL UNIT

P.W.B ASS'Y \ Model	AV-27D502/R	AV-27D502/S
MAIN PW BOARD	SAC-1507A-M2	SAC-1506A-M2
CRT SOCKET PW BOARD	SAC-3507A-M2	SAC-3506A-M2
FRONT CONTROL PW BOARD	SAC-8502A-M2	←
FRONT AV INPUT PW BOARD	SAC-8602A-M2	←
LF PW BOARD	SAC-9503A-M2	←
PIP PW BOARD	SAC0P502A-M2	←
AV SELECTOR PW BOARD	SAC0S504A-M2	←
REMOTE CONTROL UNIT	RM-C301G-2A	←

EXPLODED VIEW PARTS LIST

⚠	Ref.No.	Part No.	Part Name	Description	Local
⚠	L01	CE41329-00DJB	DEG COIL		
⚠	T1502	QQH0092-001	FBT	Within MAIN PWB	
⚠	V01	A68ADT25X01	CRT	Inc. DY(AV-27D502/R)	
⚠	V01	A68QDN891X001	CRT	Inc. DY(AV-27D502/S)	
⚠	1	QMPD200-200-JC	POWER CORD	CN90PW Within LF PWB	
	2	LC30191-002A-A	REMOCON WINDOW		
	3	CM48006-007-C	JVC MARK		
	4	LC20217-005A-A	CONTROL KNOB		
	5	A48457-4-S	SPRING		
	6	WJY0016-001A	BRAIDED WIRE		
	7	WJY0013-004A	BRAIDED WIRE		
⚠	8	CEBSS12D-04KJ2	SPEAKER	(x2) SP01, SP02	
⚠	9	LC10883-001C-A	CHASSIS BASE		
⚠	10	LC20626-003D-A	TERMINAL BOARD		
	11	QYSBSB3010Z	TAPPING SCREW	(x4)	
	12	CHGY0031-0C	ANT CABLE ASSY		
⚠	13	LC10277-003A-A	REAR COVER		
	14	QYSBSFG4016Z	TAPPING SCREW	(x12)	
	15	LC30684-005A-A	BBE LABEL		
⚠	16	LC31139-001A-A	RATING LABEL		
⚠	17	LC20106-001D-A	CORD CLAMP		
	18	QYSBSB4012Z	TAPPING SCREW	(x8)	
⚠	100	LC10964-002A-A	FRONT CABI ASSY	Inc. No. 101-102	
	101	LC20409-005A-A	DOOR		
	102	CM48229-00A-C	DOOR LATCH		

EXPLODED VIEW



PRINTED WIRING BOARD PARTS LIST (AV-27D502/R)

MAIN PW BOARD ASS'Y (SAC-1507A-M2)

RESISTOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
	R1001	NRSA63J-473X	MG R	47kΩ 1/16W	J
	R1002	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1003-04	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1011	NRSA63J-820X	MG R	82Ω 1/16W	J
	R1012	NRSA63J-182X	MG R	1.8kΩ 1/16W	J
	R1013	NRSA63J-562X	MG R	5.6kΩ 1/16W	J
	R1014	QRE121J-101Y	C R	100Ω 1/2W	J
	R1015	NRSA63J-180X	MG R	18Ω 1/16W	J
	R1016	NRSA63J-270X	MG R	27Ω 1/16W	J
	R1018	NRSA63J-104X	MG R	100kΩ 1/16W	J
	R1020	NRSA63J-332X	MG R	3.3kΩ 1/16W	J
	R1021	NRSA63J-123X	MG R	12kΩ 1/16W	J
	R1022	NRSA63J-151X	MG R	150Ω 1/16W	J
	R1023	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1024	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1025	NRSA63J-561X	MG R	560Ω 1/16W	J
	R1026	NRSA63J-331X	MG R	330Ω 1/16W	J
	R1028	NRSA63J-821X	MG R	820Ω 1/16W	J
	R1038	NRSA63J-272X	MG R	2.7kΩ 1/16W	J
	R1039-40	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1041	NRSA63J-272X	MG R	2.7kΩ 1/16W	J
	R1042-43	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1045-46	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1047	NRSA63J-153X	MG R	15kΩ 1/16W	J
	R1048	NRSA63J-154X	MG R	150kΩ 1/16W	J
	R1101-02	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1111	NRSA63J-105X	MG R	1MΩ 1/16W	J
	R1131	NRSA63J-272X	MG R	2.7kΩ 1/16W	J
	R1134	NRSA63J-562X	MG R	5.6kΩ 1/16W	J
	R1135	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1140	NRSA63J-562X	MG R	5.6kΩ 1/16W	J
	R1141	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1201	NRSA63J-333X	MG R	33kΩ 1/16W	J
	R1231	NRSA63J-182X	MG R	1.8kΩ 1/16W	J
	R1237	NRSA63J-392X	MG R	3.9kΩ 1/16W	J
	R1238	NRSA63J-473X	MG R	47kΩ 1/16W	J
	R1241	NRSA63J-332X	MG R	3.3kΩ 1/16W	J
	R1243	NRSA63J-152X	MG R	1.5kΩ 1/16W	J
	R1281	NRSA63J-182X	MG R	1.8kΩ 1/16W	J
	R1282	NRSA63J-392X	MG R	3.9kΩ 1/16W	J
	R1283	NRSA63J-681X	MG R	680Ω 1/16W	J
	R1286	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R1288	NRSA02J-471X	MG R	470Ω 1/10W	J
	R1289	NRSA63J-154X	MG R	150kΩ 1/16W	J
	R1290	NRSA02J-561X	MG R	560Ω 1/10W	J
	R1291	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1292	NRSA63J-123X	MG R	12kΩ 1/16W	J
	R1301-03	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1304-06	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1354-55	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1356	NRSA63J-123X	MG R	12kΩ 1/16W	J
	R1359	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1360	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1401	NRSA63J-822X	MG R	8.2kΩ 1/16W	J
	R1403	QRX01GJ-R82	MF R	0.82Ω 1W	J
	R1404	QRE121J-100Y	C R	10Ω 1/2W	J
	R1405	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1407	NRSA02J-0R0X	MG R	0.0Ω 1/10W	J
	R1411-12	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1414	QRL029J-221	OM R	220Ω 2W	J
	R1431	QRE121J-272Y	C R	2.7kΩ 1/2W	J
	R1432	NRSA63J-104X	MG R	100kΩ 1/16W	J
	R1433	NRSA63J-473X	MG R	47kΩ 1/16W	J
	R1434	NRSA63J-822X	MG R	8.2kΩ 1/16W	J
	R1435	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1501	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1502	NRSA63J-271X	MG R	270Ω 1/16W	J
	R1503	QRE121J-103Y	C R	10kΩ 1/2W	J
	R1504	QRL039J-102	OM R	1kΩ 3W	J
	R1505	QRL039J-122	OM R	1.2kΩ 3W	J
	R1511	QRE121J-220Y	C R	22Ω 1/2W	J
	R1512	QRE121J-681Y	C R	680Ω 1/2W	J

RESISTOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
	R1522	NRSA63J-561X	MG R	560Ω 1/16W	J
	R1523	QRJ146J-333X	C R	33kΩ 1/4W	J
⚠	R1525	QRZ9011-470	F R	47Ω 1/2W	J
	R1526	QRE121J-272Y	C R	2.7kΩ 1/2W	J
	R1527-28	QRE121J-184Y	C R	180kΩ 1/2W	J
	R1529	NRSA63J-331X	MG R	330Ω 1/16W	J
⚠	R1531	QRJ146J-391X	C R	390Ω 1/4W	J
	R1532	NRSA63J-273X	MG R	27kΩ 1/16W	J
	R1533-34	NRSA63J-123X	MG R	12kΩ 1/16W	J
⚠	R1535	NRVA02D-272X	MF R	2.7kΩ 1/10W	±0.5%
⚠	R1537	NRVA02D-752X	MF R	7.5kΩ 1/10W	±0.5%
	R1538	NRSA63J-333X	MG R	33kΩ 1/16W	J
	R1601-03	NRSA63J-750X	MG R	75Ω 1/16W	J
	R1610-12	NRSA63J-221X	MG R	220Ω 1/16W	J
	R1700-02	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1704-05	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R1706-07	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1708-09	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1714	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1715	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1721-22	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1724	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1726-28	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1729	NRSA63J-223X	MG R	22kΩ 1/16W	J
	R1731-32	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1733-34	NRSA63J-272X	MG R	2.7kΩ 1/16W	J
	R1737	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1738	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1739	NRSA63J-272X	MG R	2.7kΩ 1/16W	J
	R1740	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1741	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1742-43	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1748	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1749-51	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1752	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1753	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1754	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1755	NRSA63J-153X	MG R	15kΩ 1/16W	J
	R1756	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1763	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1764-68	NRSA63J-221X	MG R	220Ω 1/16W	J
	R1769-70	NRSA63J-682X	MG R	6.8kΩ 1/16W	J
	R1772	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1774	NRSA63J-682X	MG R	6.8kΩ 1/16W	J
	R1775	NRSA63J-473X	MG R	47kΩ 1/16W	J
	R1776	NRSA63J-123X	MG R	12kΩ 1/16W	J
	R1777	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1793-95	NRSA63J-331X	MG R	330Ω 1/16W	J
	R1798-99	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1800	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1806	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1807	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1810	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1811	NRSA63J-473X	MG R	47kΩ 1/16W	J
	R1812	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1814	NRSA63J-104X	MG R	100kΩ 1/16W	J
	R1815	NRSA63J-154X	MG R	150kΩ 1/16W	J
	R1816	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1817	NRSA63J-104X	MG R	100kΩ 1/16W	J
	R1818	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1821	NRSA63J-104X	MG R	100kΩ 1/16W	J
	R1824	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1827	NRSA63J-102X	MG R	1kΩ 1/16W	J
⚠	R1857	QRL029J-270	OM R	27Ω 2W	J
⚠	R1858	QRG01GJ-270	OM R	27Ω 1W	J
	R1860	NRSA63J-562X	MG R	5.6kΩ 1/16W	J
⚠	R1901	QRF074K-R47	UNF R	0.47Ω 7W	K
⚠	R1909	QRG01GJ-470	OM R	47Ω 1W	J
	R1911	QRE121J-223Y	C R	22kΩ 1/2W	J
	R1912-13	QRT029J-R22	MF R	0.22Ω 2W	J
	R1914	QRK126J-681X	C R	680Ω 1/2W	J
	R1915	QRE121J-270Y	C R	27Ω 1/2W	J

⚠	Symbol No.	Part No.	Part Name	Description		Local
RESISTOR						
	R1917	QRK126J-332X	C R	3.3kΩ	1/2W	J
	R1918	QRE121J-222Y	C R	2.2kΩ	1/2W	J
	R1919	QRE121J-684Y	C R	680kΩ	1/2W	J
	R1924	QRE121J-222Y	C R	2.2kΩ	1/2W	J
	R1930	QRE121J-223Y	C R	22kΩ	1/2W	J
	R1939	QRT039J-2R2	MF R	2.2Ω	3W	J
	R1940	QRE121J-181Y	C R	180Ω	1/2W	J
	R1941	QRL029J-183	OM R	18kΩ	2W	J
	R1943	NRSA63J-104X	MG R	100kΩ	1/16W	J
	R1944	NRSA63J-122X	MG R	1.2kΩ	1/16W	J
	R1951	NRSA63J-473X	MG R	47kΩ	1/16W	J
	R1952	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R1953	QRE121J-151Y	C R	150Ω	1/2W	J
	R1973	QRE121J-272Y	C R	2.7kΩ	1/2W	J
	R1975	QRE121J-223Y	C R	22kΩ	1/2W	J
	R1977	QRE121J-473Y	C R	47kΩ	1/2W	J
	R1978	NRSA63J-333X	MG R	33kΩ	1/16W	J
	R1979-80	QRT029J-1R2	MF R	1.2Ω	2W	J
CAPACITOR						
	C1001	QETN1HM-475Z	E CAP.	4.7µF	50V	M
	C1002	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1003	QETN1CM-108Z	E CAP.	1000µF	16V	M
	C1011-12	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1014	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1015-16	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1021	QFV71HJ-824Z	MF CAP.	0.82µF	50V	J
	C1023	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1024	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1025	NCB31HK-102X	C CAP.	1000pF	50V	K
	C1026	QETN1HM-474Z	E CAP.	0.47µF	50V	M
	C1027	NCB21HK-104X	C CAP.	0.1µF	50V	K
	C1028	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1030	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1034	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1036	QETN1AM-477Z	E CAP.	470µF	10V	M
	C1037	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1038	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1041-42	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1043-44	NDC31HJ-470X	C CAP.	47pF	50V	J
	C1045	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1046	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1047	NDC21HJ-330X	C CAP.	33pF	50V	J
	C1048	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1111	QETN0JM-228Z	E CAP.	2200µF	6.3V	M
	C1112	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1113	QETN1HM-474Z	E CAP.	0.47µF	50V	M
	C1114	QETN1HM-105Z	E CAP.	1µF	50V	M
	C1115	QFV71HJ-104Z	MF CAP.	0.1µF	50V	J
	C1116	NCB21HK-104X	C CAP.	0.1µF	50V	K
	C1131	NDC31HJ-470X	C CAP.	47pF	50V	J
	C1136	QENC1CM-106Z	BP E CAP.	10µF	16V	M
	C1151	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1152	QENC1HM-105Z	BP E CAP.	1µF	50V	M
	C1201	NDC31HJ-100X	C CAP.	10pF	50V	J
	C1202	QETN1HM-224Z	E CAP.	0.22µF	50V	M
	C1203	NCB31HK-222X	C CAP.	2200pF	50V	K
	C1233	NDC31HJ-560X	C CAP.	56pF	50V	J
	C1237	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1281	QFV71HJ-474Z	MF CAP.	0.47µF	50V	J
	C1282	QETN1CM-227Z	E CAP.	220µF	16V	M
	C1283	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1284	QETN1HM-225Z	E CAP.	2.2µF	50V	M
	C1285	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1286	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1287	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1288	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1352	QETN1CM-336Z	E CAP.	33µF	16V	M
	C1354	QFV71HJ-154Z	MF CAP.	0.15µF	50V	J
	C1391	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1392	NCB31HK-103X	C CAP.	0.01µF	50V	K

⚠	Symbol No.	Part No.	Part Name	Description		Local
CAPACITOR						
	C1393-95	NCB21HK-104X	C CAP.	0.1µF	50V	K
	C1401	NDC21HJ-152X	C CAP.	1500pF	50V	J
	C1403	NCB21HK-273X	C CAP.	0.027µF	50V	K
	C1404	QETN1VM-107Z	E CAP.	100µF	35V	M
	C1405	QCS32HJ-100Z	C CAP.	10pF	500V	J
	C1407	QFLC2AK-563Z	M CAP.	0.056µF	100V	K
	C1410	QFLC2AJ-104Z	M CAP.	0.1µF	100V	J
	C1411	QETN1HM-105Z	E CAP.	1µF	50V	M
	C1415	NCB21HK-104X	C CAP.	0.1µF	50V	K
	C1421	QEHQ1VM-108	E CAP.	1000µF	35V	M
	C1431	QETN1HM-105Z	E CAP.	1µF	50V	M
	C1432	QETN1EM-476Z	E CAP.	47µF	25V	M
	C1501	QCB32HK-151Z	C CAP.	150pF	500V	K
	C1502	QCB32HK-331Z	C CAP.	330pF	500V	K
	C1503	QEHR2CM-105Z	E CAP.	1µF	160V	M
	C1504	QEZ0203-107	E CAP.	100µF	160V	M
	C1507-08	QEM61HK-475Z	E CAP.	4.7µF	50V	K
⚠	C1510	QFZ0196-352	MPP CAP.	3500pF	1.5kVH	±3%
⚠	C1513	QFZ0198-133	MPP CAP.	0.013µF	1.5kVH	±3%
⚠	C1514	QFM72DK-124	M CAP.	0.12µF	200V	K
⚠	C1515	QFZ0197-404	MPP CAP.	0.4µF	250V	J
	C1516	QCB32HK-561Z	C CAP.	560pF	500V	K
	C1521	QETN2EM-106Z	E CAP.	10µF	250V	M
	C1523	QEHR1EM-108Z	E CAP.	1000µF	25V	M
	C1524	QETN1EM-108Z	E CAP.	1000µF	25V	M
	C1525	QETN1VM-107Z	E CAP.	100µF	35V	M
	C1526	QFV21HJ-824Z	MF CAP.	0.82µF	50V	J
	C1527	QFLC2AJ-103Z	M CAP.	0.01µF	100V	J
	C1531	QCB32HK-102Z	C CAP.	1000pF	500V	K
	C1533	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1601-03	QETN1EM-476Z	E CAP.	47µF	25V	M
	C1609-11	QFV71HJ-104Z	MF CAP.	0.1µF	50V	J
	C1612	QETN1HM-105Z	E CAP.	1µF	50V	M
	C1700	NCB31HK-102X	C CAP.	1000pF	50V	K
	C1703	NDC31HJ-181X	C CAP.	180pF	50V	J
	C1706	QETN1HM-105Z	E CAP.	1µF	50V	M
	C1707	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1710	NCB21EK-683X	C CAP.	0.068µF	25V	K
	C1721	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1722-23	NDC31HJ-390X	C CAP.	39pF	50V	J
	C1724	NDC31HJ-471X	C CAP.	470pF	50V	J
	C1726	NDC21HJ-561X	C CAP.	560pF	50V	J
	C1800	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1801	NCB21HK-104X	C CAP.	0.1µF	50V	K
	C1802	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1803	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1804	NDC31HJ-102X	C CAP.	1000pF	50V	J
	C1805	NCB31HK-153X	C CAP.	0.015µF	50V	K
	C1806-07	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1810	QETN1HM-474Z	E CAP.	0.47µF	50V	M
	C1811	QETN1HM-105Z	E CAP.	1µF	50V	M
	C1813	NCB31HK-102X	C CAP.	1000pF	50V	K
	C1816	NCB31HK-153X	C CAP.	0.015µF	50V	K
	C1853-54	QETN1CM-227Z	E CAP.	220µF	16V	M
	C1856	QETN1CM-227Z	E CAP.	220µF	16V	M
	C1857	QETN1CM-477Z	E CAP.	470µF	16V	M
⚠	C1904-06	QCZ9054-102	C CAP.	1000pF	250V	Z
⚠	C1907	QEZ0169-477	E CAP.	470µF	200V	M
⚠	C1908	QCZ9054-102	C CAP.	1000pF	250V	Z
	C1912	QCZ0340-222	C CAP.	2200pF		
	C1913	QFLC1HJ-471Z	M CAP.	470pF	50V	J
	C1914	QETN1HM-107Z	E CAP.	100µF	50V	M
	C1916	NDC31HJ-331X	C CAP.	330pF	50V	J
	C1917	NCB21HK-122X	C CAP.	1200pF	50V	K
	C1918	NCB21HK-104X	C CAP.	0.1µF	50V	K
	C1919	QFP32GJ-103	PP CAP.	0.01µF	400V	J
	C1925	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	C1931	QEZ0203-107	E CAP.	100µF	160V	M
	C1932	QETN1CM-108Z	E CAP.	1000µF	16V	M
	C1933	QETM1EM-228	E CAP.	2200µF	25V	M
	C1935	QETN1EM-108Z	E CAP.	1000µF	25V	M
	C1937	QCZ0340-102	C CAP.	1000pF		

⚠	Symbol No.	Part No.	Part Name	Description			Local
	CAPACITOR						
	C1938	QETM1EM-228	E CAP.	2200µF	25V	M	
	C1939	QCB32HK-152Z	C CAP.	1500pF	500V	K	
	C1942	QEHR1HM-105Z	E CAP.	1µF	50V	M	
	C1943	QETN1CM-108Z	E CAP.	1000µF	16V	M	
	C1948	QETN1EM-476Z	E CAP.	47µF	25V	M	
	C1951	QETN1CM-477Z	E CAP.	470µF	16V	M	
	C1971	QETN1CM-107Z	E CAP.	100µF	16V	M	
	C1972	QETN1EM-476Z	E CAP.	47µF	25V	M	
	C1973	QETN1HM-106Z	E CAP.	10µF	50V	M	
⚠	C1998-99	QCZ9074-103	C CAP.	0.01µF	125V	M	
	TRANSFORMER						
	T1501	CE42034-002	H.DRIVE TRANSF.				
⚠	T1502	QQH0092-001	FBT				
⚠	T1921	QQS0098-001	SW TRANSF.				
⚠	T1951	QQT0315-001	POWER TRANSF.				
	COIL						
⚠	L1001	QQL244K-560Z	PEAKING COIL	56µH		K	
	L1012	QQLZ014-R39	PEAKING COIL	0.39µH			
	L1021	QRN143J-0R0X	C R	0.0Ω	1/4W	J	
	L1022	QQL244K-220Z	PEAKING COIL	22µH		K	
	L1027	QRN143J-0R0X	C R	0.0Ω	1/4W	J	
	L1041	QRN143J-0R0X	C R	0.0Ω	1/4W	J	
	L1042	QQL244K-220Z	PEAKING COIL	22µH		K	
	L1101	QQL244K-470Z	COIL	47µH		K	
	L1232	QQL244K-560Z	PEAKING COIL	56µH		K	
⚠	L1511	QQR1027-002	LINIARITY COIL				
	L1512	QQLZ027-821	CHOKE COIL	820µH			
⚠	L1521	QQLZ026-430	HEATER CHOKE	43µH			
	L1700	QQL244K-4R7Z	COIL	4.7µH		K	
	L1810	QQL244J-100Z	COIL	10µH		J	
	L1931	QQL26AK-470Z	COIL	47µH		K	
	L1933	QQL26AK-470Z	COIL	47µH		K	
	L1937	QQL26AK-470Z	COIL	47µH		K	
	DIODE						
	D1101-02	MTZJ8.2C-T2	ZENER DIODE				
	D1305-10	1SS133-T2	SI.DIODE				
	D1352	MTZJ9.1C-T2	ZENER DIODE				
	D1353	1SS133-T2	SI.DIODE				
	D1401	1SR35-400A-T2	SI.DIODE				
	D1431	1SR35-400A-T2	SI.DIODE				
	D1432	1SS133-T2	SI.DIODE				
	D1501	RH3G-F1	SI.DIODE				
	D1502	RU3AM-LFC4	SI.DIODE				
	D1521	RH1S-T3	SI.DIODE				
	D1523	RGP10J-5025-T3	SI.DIODE				
	D1524	RGP10J-5025-T3	SI.DIODE				
	D1525-26	1SS81-T5	SI.DIODE				
	D1527	1SR124-400A-T2	SI.DIODE				
	D1529	MTZJ5.1C-T2	ZENER DIODE				
⚠	D1531	MA4068N/Z1/-T2	ZENER DIODE				
	D1535	1SS133-T2	SI.DIODE				
	D1537	1SR35-400A-T2	SI.DIODE				
	D1601	MTZJ9.1C-T2	ZENER DIODE				
	D1603	MTZJ9.1C-T2	ZENER DIODE				
	D1606	MTZJ9.1C-T2	ZENER DIODE				
	D1701	1SS133-T2	SI.DIODE				
	D1706-10	MTZJ8.2C-T2	ZENER DIODE				
	D1721-22	1SS133-T2	SI.DIODE				
	D1723-24	MTZJ5.6B-T2	ZENER DIODE				
	D1800	1SS81-T2	SI.DIODE				
	D1801	1SS133-T2	SI.DIODE				
	D1810	MTZJ8.2C-T2	ZENER DIODE				
	D1811	1SS133-T2	SI.DIODE				
⚠	D1901	D3SBA60	DIODE BRIDGE				

⚠	Symbol No.	Part No.	Part Name	Description			Local
	DIODE						
	D1910	MA700A-T2	SI.DIODE				
⚠	D1911	RGP10J-5025-T3	SI.DIODE				
⚠	D1912	RGP10J-5025-T3	SI.DIODE				
⚠	D1913	RGP10J-5025-T3	SI.DIODE				
	D1914	1SS133-T2	SI.DIODE				
	D1915	SARS01-T2	SI.DIODE				
	D1917	MTZJ30A-T2	ZENER DIODE				
	D1918	MTZJ5.1C-T2	ZENER DIODE				
	D1920	1SS133-T2	SI.DIODE				
	D1931	RU30A-F1	SI.DIODE				
	D1933	RU3YX-LFC4	SI.DIODE				
	D1935	RU3YX-LFC4	SI.DIODE				
	D1937	RGP10J-5025-T3	SI.DIODE				
	D1941	MTZJ33A-T2	ZENER DIODE				
	D1945	1SS133-T2	SI.DIODE				
	D1952-53	1SS133-T2	SI.DIODE				
	D1954-57	1SR35-400A-T2	SI.DIODE				
	D1972	MTZJ15C-T2	ZENER DIODE				
	D1973	1SS133-T2	SI.DIODE				
	TRANSISTOR						
	Q1011	2SC5083/L-P/-T	SI.TRANSISTOR				
	Q1021	2SC2412K/QR/-X	SI.TRANSISTOR				
	Q1024	2SC2412K/QR/-X	SI.TRANSISTOR				
	Q1025	2SA1037AK/QR/-X	SI.TRANSISTOR				
	Q1041	2SA1037AK/QR/-X	SI.TRANSISTOR				
	Q1131	2SC2412K/QR/-X	SI.TRANSISTOR				
	Q1232-33	2SC2412K/QR/-X	SI.TRANSISTOR				
	Q1352	2SC2412K/QR/-X	SI.TRANSISTOR				
	Q1431	2SC2412K/QR/-X	SI.TRANSISTOR				
	Q1501	2SC4212/Z1/	SI.TRANSISTOR				
⚠	Q1511	2SD2634-YD	SI.TRANSISTOR				
	Q1531	2SC2785/JH/-T	SI.TRANSISTOR				
	Q1532	2SA1037AK/QR/-X	SI.TRANSISTOR				
	Q1700	2SC2412K/QR/-X	SI.TRANSISTOR				
	Q1701	2SA1037AK/QR/-X	SI.TRANSISTOR				
	Q1703	2SA1037AK/QR/-X	SI.TRANSISTOR				
	Q1706	2SC2412K/QR/-X	SI.TRANSISTOR				
	Q1711	DTC124EKA-X	DIGI.TRANSISTOR				
	Q1810	DTC144EKA-X	DIGI.TRANSISTOR				
	Q1941	2SC2412K/QR/-X	SI.TRANSISTOR				
	Q1951	2SD1383K/AB/-X	SI.TRANSISTOR				
	Q1971	2SA1208/ST/Z1-T	SI.TRANSISTOR				
	IC						
	IC1101	TB1253AN	I.C.(M)				
⚠	IC1401	LA7841	I.C.(MONO-ANA)				
	IC1701	MN1876478JL1	I.C.(MICRO-COMP)				
	IC1702	AT24C04-32D502	I.C.(MEMORY-OTH)	(SERVICE)			
	IC1703	MM1437AF-X	I.C.(MONO-ANA)				
	IC1852	AN7809F	I.C.(MONO-ANA)				
	IC1853	AN7805F	I.C.(MONO-ANA)				
	IC1911	STR-G6624/F8	I.C.(HYBRID)				
⚠	IC1921	SE135N	I.C.(HYBRID)				
	OTHERS						
	CF1001	QAX0349-001	CERAMIC FILTER				
	CF1021	QAX0639-001Z	CERAMIC FILTER				
	CF1041	QAX0642-001Z	CERAMIC FILTER				
⚠	CP1932	ICP-N75-Y	I.C.PROTECT				
⚠	CP1933	ICP-N75-Y	I.C.PROTECT				
⚠	CP1936	ICP-N75-Y	I.C.PROTECT				
⚠	F1905	QMFZ034-5R0Z-J1	FUSE	5A			
⚠	FR1521	QRK126J-150X	C R	15Ω	1/2W	J	
⚠	FR1523-24	QRX029J-4R7	MF R	4.7Ω	2W	J	
⚠	FR1525	QRZ9017-4R7	F R	4.7Ω	1/4W	J	
	J1601	QNN0349-002	PIN JACK				
	J1810	QNS0001-001	JACK				
	K1401	QQR0621-002Z	BEADS CORE				
	K1912	QQR0582-001Z	BEADS CORE				

⚠	Symbol No.	Part No.	Part Name	Description	Local
	OTHERS				
	K1916-17	QQR0582-001Z	BEADS CORE		
	K1931-33	QQR0582-001Z	BEADS CORE		
	K1935	QQR0582-001Z	BEADS CORE		
	K1937	QQR0582-001Z	BEADS CORE		
	K1940	QQR0582-001Z	BEADS CORE		
	K1941	QQR0621-002Z	BEADS CORE		
	LC1601-03	NQR0169-001X	EMI FILTER		
⚠	PC1921	TLP421F/D4-GR/	I.C.(PH.COUPLER)		
⚠	RY1941	QSK0120-001	RELAY		
⚠	RY1951	QSK0113-001	RELAY		
	SF1011	QAX0324-002	SAW FILTER		
⚠	TH1901	QAD0129-3R0	POSISTOR		
⚠	TU1001	QAU0234-001	TUNER		
	X1201	CE40668-001Z	CRYSTAL		
	X1700	QAX0307-001	CER.RESONATOR		

CRT SOCKET PW BOARD ASS'Y (SAC-3507A-M2)

⚠	Symbol No.	Part No.	Part Name	Description	Local
	RESISTOR				
	R3354-56	NRSA63J-221X	MG R	220Ω 1/16W	J
	R3357-59	NRSA63J-101X	MG R	100Ω 1/16W	J
	R3360-62	QRZ0111-152	C R	1.5kΩ 1/2W	K
	R3363-65	QRG029J-103	OM R	10kΩ 2W	J
	R3366-68	NRSA63J-182X	MG R	1.8kΩ 1/16W	J
	R3372-74	NRSA63J-221X	MG R	220Ω 1/16W	J
	R3375-77	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R3381	QRE121J-394Y	C R	390kΩ 1/2W	J
	R3391	NRSA63J-152X	MG R	1.5kΩ 1/16W	J
	R3392	NRSA63J-392X	MG R	3.9kΩ 1/16W	J
	R3393-95	NRSA63J-102X	MG R	1kΩ 1/16W	J
	CAPACITOR				
	C3354-55	NDC31HJ-331X	C CAP.	330pF 50V	J
	C3356	NDC31HJ-391X	C CAP.	390pF 50V	J
	C3357	QETN1CM-107Z	E CAP.	100µF 16V	M
	C3382	QCZ0121-102	C CAP.	1000pF 3000V	Z
	C3391	QETN1AM-227Z	E CAP.	220µF 10V	M
	C3392	NDC31HJ-101X	C CAP.	100pF 50V	J
	COIL				
	L3381	QQL244K-101Z	PEAKING COIL	100µH	K
	DIODE				
	D3391	1SS133-T2	SI.DIODE		
	TRANSISTOR				
	Q3351-53	2SC4544-LB	SI.TRANSISTOR		
	Q3391	2SA933AS/QR/-T	SI.TRANSISTOR		
	OTHERS				
⚠	SK3351	QNZ0464-001	C.R.T.SOCKET		

FRONT CONTROL PW BOARD ASS'Y (SAC-8502A-M2)

⚠	Symbol No.	Part No.	Part Name	Description	Local
	RESISTOR				
	R8702	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R8703	NRSA63J-153X	MG R	15kΩ 1/16W	J
	R8705	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R8706	NRSA63J-153X	MG R	15kΩ 1/16W	J
	R8707	NRSA63J-332X	MG R	3.3kΩ 1/16W	J
	R8708	NRSA63J-152X	MG R	1.5kΩ 1/16W	J
	R8709	NRSA63J-561X	MG R	560Ω 1/16W	J
	CAPACITOR				
	C8701	QETN1EM-476Z	E CAP.	47µF 25V	M
	DIODE				
	D8701	SLR-342VR3F	L.E.D.		
	TRANSISTOR				
	Q8701-02	DTA124EKA-X	DIGI.TRANSISTOR		
	IC				
	IC8701	GP1U281Q	IFR DETECT UNIT		
	OTHERS				
		LC30190-001B-A	L.E.D.HOLDER		
	S8701	QSW0619-003Z	PUSH SWITCH	POWER	
	S8702	QSW0619-003Z	PUSH SWITCH	MENU	
	S8703	QSW0619-003Z	PUSH SWITCH	CH-	
	S8704	QSW0619-003Z	PUSH SWITCH	CH+	
	S8705	QSW0619-003Z	PUSH SWITCH	VOL-	
	S8706	QSW0619-003Z	PUSH SWITCH	VOL+	

FRONT AV INPUT PW BOARD ASS'Y (SAC-8602A-M2)

⚠	Symbol No.	Part No.	Part Name	Description	Local
	RESISTOR				
	R8401	NRSA63J-750X	MG R	75Ω 1/16W	J
	R8402-03	NRSA63J-224X	MG R	220kΩ 1/16W	J
	CAPACITOR				
	C8401	QETN1HM-474Z	E CAP.	0.47µF 50V	M
	C8402-03	QETN1HM-105Z	E CAP.	1µF 50V	M
	OTHERS				
	J8401	QNN0281-003	PIN JACK		
	J8402	QNN0281-002	PIN JACK		
	J8403	QNN0282-001	PIN JACK		
	LC8401	QQR1199-001	EMI FILTER		

LF PW BOARD ASS'Y (SAC-9503A-M2)

⚠	Symbol No.	Part No.	Part Name	Description	Local
	RESISTOR				
	R9997	QRE121J-5R6Y	C R	5.6Ω 1/2W J	
⚠	R9998	QRZ9041-275	C R	2.7MΩ 1/2W K	
	CAPACITOR				
⚠	C9901	QFZ9067-104	MM CAP.	0.1µF	
⚠	C9902	QFZ9067-473	MM CAP.	0.047µF	
⚠	C9904	QCZ9052-102	C CAP.	1000pF	
	OTHERS				
⚠	CN90PW	QMPD200-200-JC	POWER CORD		
⚠	F9901	QMF0007-5R0J1	FUSE	5A	
	FC9901	CEMG002-001Z	FUSE CLIP		
⚠	LF9902	QQR0527-003	LINE FILTER		
⚠	VA9901	ERZV10V621CS	VARISTOR		

PIP PW BOARD ASS'Y (SAC0P502A-M2)

⚠	Symbol No.	Part No.	Part Name	Description	Local
	RESISTOR				
	R0001-02	NRSA63J-103X	MG R	10kΩ 1/16W J	
	R0003-04	NRSA63J-101X	MG R	100Ω 1/16W J	
	R0005	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	R0011	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	R0121	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	R0301	NRSA63J-473X	MG R	47kΩ 1/16W J	
	R0303	NRSA63J-222X	MG R	2.2kΩ 1/16W J	
	R0304	NRSA63J-473X	MG R	47kΩ 1/16W J	
	R0306	NRSA63J-222X	MG R	2.2kΩ 1/16W J	
	R0307-08	NRSA63J-332X	MG R	3.3kΩ 1/16W J	
	R0309	NRSA63J-102X	MG R	1kΩ 1/16W J	
	R0311	NRSA63J-101X	MG R	100Ω 1/16W J	
	R0313	NRSA63J-101X	MG R	100Ω 1/16W J	
	R0314	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	R0316	NRSA63J-331X	MG R	330Ω 1/16W J	
	R0317	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	R0331	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	R0337	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	R0343	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	CAPACITOR				
	C0003-04	QETN1HM-106Z	E CAP.	10µF 50V M	
	C0006	QETN1HM-106Z	E CAP.	10µF 50V M	
	C0008	QETN1EM-476Z	E CAP.	47µF 25V M	
	C0301-02	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	C0312-13	NDC31HJ-270X	C CAP.	27pF 50V J	
	C0314	QETN1HM-106Z	E CAP.	10µF 50V M	
	C0315	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C0316-18	NCB21HK-104X	C CAP.	0.1µF 50V K	
	C0319	QETN1HM-106Z	E CAP.	10µF 50V M	
	C0320	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C0321	QETN1HM-105Z	E CAP.	1µF 50V M	
	C0322	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C0323	QETN1HM-106Z	E CAP.	10µF 50V M	
	C0324-25	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C0326	NCB21HK-104X	C CAP.	0.1µF 50V K	
	C0327	QETN1HM-225Z	E CAP.	2.2µF 50V M	
	C0328	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C0329	QETN1HM-225Z	E CAP.	2.2µF 50V M	

⚠	Symbol No.	Part No.	Part Name	Description	Local
	CAPACITOR				
	C0330	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C0331	NCB21HK-104X	C CAP.	0.1µF 50V K	
	COIL				
	L0302-04	QQL244J-6R8Z	COIL	6.8µH J	
	DIODE				
	D0301	1SS133-T2	SI.DIODE		
	TRANSISTOR				
	Q0301-03	2SC2412K/QR/-X	SI.TRANSISTOR		
	IC				
	IC0001	AN7805F	I.C.(MONO-ANA)		
	IC0301	SDA9389X-X	I.C.(DIGI-MOS)		
	OTHERS				
⚠	TU0001	QAU0206-001	TUNER		
	X0301	QAX0521-001Z	CRYSTAL		

AV SELECTOR PW BOARD ASS'Y (SAC0S504A-M2)

⚠	Symbol No.	Part No.	Part Name	Description	Local
	RESISTOR				
	R0081	NRSA63J-102X	MG R	1kΩ 1/16W J	
	R0082	NRSA63J-682X	MG R	6.8kΩ 1/16W J	
	R0083	NRSA63J-153X	MG R	15kΩ 1/16W J	
	R0084	NRSA63J-683X	MG R	68kΩ 1/16W J	
	R0085	NRSA63J-332X	MG R	3.3kΩ 1/16W J	
	R0086	NRSA63J-333X	MG R	33kΩ 1/16W J	
	R0087	NRSA63J-153X	MG R	15kΩ 1/16W J	
	R0088	NRSA63J-152X	MG R	1.5kΩ 1/16W J	
	R0089	NRSA63J-562X	MG R	5.6kΩ 1/16W J	
	R0090	NRSA63J-563X	MG R	56kΩ 1/16W J	
	R0151-54	NRSA63J-223X	MG R	22kΩ 1/16W J	
	R0155	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	R0157	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	R0159	NRSA63J-103X	MG R	10kΩ 1/16W J	
	R0202	NRSA63J-101X	MG R	100Ω 1/16W J	
	R0210	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	R0211	NRSA63J-153X	MG R	15kΩ 1/16W J	
	R0212	NRSA63J-333X	MG R	33kΩ 1/16W J	
	R0213	NRSA63J-102X	MG R	1kΩ 1/16W J	
	R0214	NRSA63J-181X	MG R	180Ω 1/16W J	
	R0215	NRSA63J-152X	MG R	1.5kΩ 1/16W J	
	R0216	NRSA63J-182X	MG R	1.8kΩ 1/16W J	
	R0217	NRSA63J-102X	MG R	1kΩ 1/16W J	
	R0218	NRSA63J-222X	MG R	2.2kΩ 1/16W J	
	R0223	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	R0229	NRSA63J-473X	MG R	47kΩ 1/16W J	
	R0230	NRSA63J-223X	MG R	22kΩ 1/16W J	
	R0231	NRSA63J-101X	MG R	100Ω 1/16W J	
	R0232	NRSA63J-102X	MG R	1kΩ 1/16W J	
	R0233	NRSA63J-272X	MG R	2.7kΩ 1/16W J	
	R0234	NRSA63J-102X	MG R	1kΩ 1/16W J	
	R0235-36	NRSA63J-101X	MG R	100Ω 1/16W J	
	R0238	NRSA63J-822X	MG R	8.2kΩ 1/16W J	
	R0239	NRSA63J-123X	MG R	12kΩ 1/16W J	

⚠	Symbol No.	Part No.	Part Name	Description		Local
RESISTOR						
	R0241	NRSA63J-821X	MG R	820Ω	1/16W	J
	R0242	NRSA63J-474X	MG R	470kΩ	1/16W	J
	R0243-44	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R0247	NRSA63J-101X	MG R	100Ω	1/16W	J
	R0251	NRSA63J-471X	MG R	470Ω	1/16W	J
	R0253	NRSA63J-681X	MG R	680Ω	1/16W	J
	R0254	NRSA63J-391X	MG R	390Ω	1/16W	J
	R0255	NRSA63J-681X	MG R	680Ω	1/16W	J
	R0258	NRSA63J-101X	MG R	100Ω	1/16W	J
	R0259	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R0261	NRSA63J-101X	MG R	100Ω	1/16W	J
	R0262	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R0263	NRSA63J-471X	MG R	470Ω	1/16W	J
	R0265	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R0269	NRSA63J-681X	MG R	680Ω	1/16W	J
	R0270	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R0301-02	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R0303-04	NRSA63J-221X	MG R	220Ω	1/16W	J
	R0305-06	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	R0331-34	NRSA63J-101X	MG R	100Ω	1/16W	J
	R0371-74	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R0375-76	NRSA63J-333X	MG R	33kΩ	1/16W	J
	R0377-78	NRSA63J-472X	MG R	4.7kΩ	1/16W	J
	R0385	NRSA63J-223X	MG R	22kΩ	1/16W	J
	R0387	NRSA63J-223X	MG R	22kΩ	1/16W	J
	R0391-92	NRSA63J-221X	MG R	220Ω	1/16W	J
	R0393-94	NRSA63J-823X	MG R	82kΩ	1/16W	J
	R0395-96	NRSA63J-221X	MG R	220Ω	1/16W	J
	R0401	NRSA63J-183X	MG R	18kΩ	1/16W	J
	R0402	NRSA63J-223X	MG R	22kΩ	1/16W	J
	R0458	NRSA63J-333X	MG R	33kΩ	1/16W	J
	R0459	NRSA63J-183X	MG R	18kΩ	1/16W	J
	R0501-02	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R0504-05	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R0506	NRSA63J-221X	MG R	220Ω	1/16W	J
	R0507-08	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R0509	NRSA63J-221X	MG R	220Ω	1/16W	J
	R0518	NRSA63J-333X	MG R	33kΩ	1/16W	J
	R0519-21	NRSA63J-750X	MG R	75Ω	1/16W	J
	R0522-23	NRSA63J-224X	MG R	220kΩ	1/16W	J
	R0524	NRSA63J-333X	MG R	33kΩ	1/16W	J
	R0525-26	NRSA63J-750X	MG R	75Ω	1/16W	J
	R0528-29	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	R0532-33	NRSA63J-224X	MG R	220kΩ	1/16W	J
	R0558-63	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	R0566-67	NRSA63J-331X	MG R	330Ω	1/16W	J
	R0571	NRSA63J-101X	MG R	100Ω	1/16W	J
	R0573	NRSA63J-272X	MG R	2.7kΩ	1/16W	J
	R0574	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	R0901	NRSA63J-101X	MG R	100Ω	1/16W	J
	R0906	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
CAPACITOR						
	C0081	NCB21HK-104X	C CAP.	0.1µF	50V	K
	C0082	QENC1HM-475Z	BP E CAP.	4.7µF	50V	M
	C0083	QENC1HM-105Z	BP E CAP.	1µF	50V	M
	C0084	QETN1HM-225Z	E CAP.	2.2µF	50V	M
	C0085	NCB21HK-473X	C CAP.	0.047µF	50V	K
	C0086	QETN1HM-474Z	E CAP.	0.47µF	50V	M
	C0087-88	NCB21HK-104X	C CAP.	0.1µF	50V	K
	C0089	QETN1HM-335Z	E CAP.	3.3µF	50V	M
	C0090	QETN1HM-105Z	E CAP.	1µF	50V	M
	C0091	QETN1HM-106Z	E CAP.	10µF	50V	M
	C0092-93	QETN1HM-105Z	E CAP.	1µF	50V	M
	C0094	QETN1HM-475Z	E CAP.	4.7µF	50V	M
	C0095	QETN1HM-105Z	E CAP.	1µF	50V	M
	C0151-52	QENC1HM-105Z	BP E CAP.	1µF	50V	M
	C0153-54	NCB31HK-332X	C CAP.	3300pF	50V	K
	C0155-56	NCB21HK-333X	C CAP.	0.033µF	50V	K
	C0157-58	QETN1HM-106Z	E CAP.	10µF	50V	M
	C0159	QETN1EM-476Z	E CAP.	47µF	25V	M

⚠	Symbol No.	Part No.	Part Name	Description		Local
CAPACITOR						
	C0160	NCB21HK-104X	C CAP.	0.1µF	50V	K
	C0205	QETN1HM-476Z	E CAP.	47µF	50V	M
	C0206	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0211	QENC1EM-106Z	BP E CAP.	10µF	25V	M
	C0212	NDC31HJ-101X	C CAP.	100pF	50V	J
	C0213	NDC31HJ-470X	C CAP.	47pF	50V	J
	C0214	NDC31HJ-181X	C CAP.	180pF	50V	J
	C0215	QETN1HM-474Z	E CAP.	0.47µF	50V	M
	C0223	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0226	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0231-33	QETN1HM-106Z	E CAP.	10µF	50V	M
	C0234	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0235	QETN1HM-106Z	E CAP.	10µF	50V	M
	C0236	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0237	NCB31HK-472X	C CAP.	4700pF	50V	K
	C0238-39	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0241-45	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0246	NDC31HJ-181X	C CAP.	180pF	50V	J
	C0247-49	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0251	QETN1HM-476Z	E CAP.	47µF	50V	M
	C0252	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0255	NDC31HJ-390X	C CAP.	39pF	50V	J
	C0263	NDC31HJ-150X	C CAP.	15pF	50V	J
	C0264	QENC1HM-474Z	BP E CAP.	0.47µF	50V	M
	C0265	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0309-10	NCB31HK-102X	C CAP.	1000pF	50V	K
	C0311-12	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	C0331	QETN1CM-107Z	E CAP.	100µF	16V	M
	C0332	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0333	QETN1EM-476Z	E CAP.	47µF	25V	M
	C0334	NCB21HK-273X	C CAP.	0.027µF	50V	K
	C0335	QETN1HM-225Z	E CAP.	2.2µF	50V	M
	C0336	NCB31HK-222X	C CAP.	2200pF	50V	K
	C0337	NCB21HK-104X	C CAP.	0.1µF	50V	K
	C0338	QETN1HM-225Z	E CAP.	2.2µF	50V	M
	C0339	NCB31HK-222X	C CAP.	2200pF	50V	K
	C0340	NCB21HK-104X	C CAP.	0.1µF	50V	K
	C0343	QETN1HM-105Z	E CAP.	1µF	50V	M
	C0344-45	QENC1HM-225Z	BP E CAP.	2.2µF	50V	M
	C0371-72	QENC1HM-105Z	BP E CAP.	1µF	50V	M
	C0373	QETN1EM-476Z	E CAP.	47µF	25V	M
	C0391-92	QETN1HM-474Z	E CAP.	0.47µF	50V	M
	C0401	QETN1CM-107Z	E CAP.	100µF	16V	M
	C0402-03	NCF21CZ-105X	C CAP.	1µF	16V	Z
	C0404	QFV71HJ-224Z	MF CAP.	0.22µF	50V	J
	C0407	QETN1EM-108Z	E CAP.	1000µF	25V	M
	C0410-11	QETN1EM-108Z	E CAP.	1000µF	25V	M
	C0412-13	QETN1HM-105Z	E CAP.	1µF	50V	M
	C0501-02	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0503	QETN1HM-226Z	E CAP.	22µF	50V	M
	C0504	QETN1EM-476Z	E CAP.	47µF	25V	M
	C0505	QENC1HM-474Z	BP E CAP.	0.47µF	50V	M
	C0508	QETN1HM-474Z	E CAP.	0.47µF	50V	M
	C0509	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0511	QETN1HM-474Z	E CAP.	0.47µF	50V	M
	C0512-13	QETN1HM-105Z	E CAP.	1µF	50V	M
	C0514	QETN1HM-474Z	E CAP.	0.47µF	50V	M
	C0515	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0520-21	QETN1HM-105Z	E CAP.	1µF	50V	M
	C0531-32	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0536-37	NCB31HK-103X	C CAP.	0.01µF	50V	K
COIL						
	L0202	QQL244K-150Z	COIL	15µH		K
	L0211	QQL244K-4R7Z	COIL	4.7µH		K
	L0242-43	QQL244K-4R7Z	COIL	4.7µH		K
	L0261	QQL244K-150Z	COIL	15µH		K
DIODE						
	D0391-92	MTZJ10C-T2	ZENER DIODE			
	D0501-02	MTZJ10C-T2	ZENER DIODE			

⚠ Symbol No.	Part No.	Part Name	Description	Local
DIODE				
D0504	MTZJ10C-T2	ZENER DIODE		
D0509-12	MTZJ10C-T2	ZENER DIODE		
D0514-19	MTZJ10C-T2	ZENER DIODE		
D0521	MTZJ10C-T2	ZENER DIODE		
TRANSISTOR				
Q0211-12	2SC2412K/QR/-X	SI.TRANSISTOR		
Q0218	2SC2412K/QR/-X	SI.TRANSISTOR		
Q0219	2SA1037AK/QR/-X	SI.TRANSISTOR		
Q0251	2SC2412K/QR/-X	SI.TRANSISTOR		
Q0252	2SA1037AK/QR/-X	SI.TRANSISTOR		
Q0253	2SC2412K/QR/-X	SI.TRANSISTOR		
Q0261-62	2SC2412K/QR/-X	SI.TRANSISTOR		
Q0263	2SA1037AK/QR/-X	SI.TRANSISTOR		
Q0301-02	DTC124EKA-X	DIGI.TRANSISTOR		
Q0385	DTC323TK-X	DIGI.TRANSISTOR		
Q0387	DTC323TK-X	DIGI.TRANSISTOR		
Q0453	2SC2412K/QR/-X	SI.TRANSISTOR		
Q0454	DTC124EKA-X	DIGI.TRANSISTOR		
Q0509	2SC2412K/QR/-X	SI.TRANSISTOR		
IC				
IC0001	UPC1851BCU	I.C.(MONO-ANA)		
IC0151	NJM2150AD	I.C.(MONO-ANA)		
IC0201	TC90A53N	I.C.(DIGI-MOS)		
IC0371	BA15218N	I.C.(MONO-ANA)		
IC0401	LA4485	I.C.(MONO-ANA)		
IC0501	CXA2089Q-X	I.C.(MONO-ANA)		
OTHERS				
J0501	QNZ0454-001	PIN JACK		
J0502	QNZ0531-001	AV JACK		
J0503	QNN0348-001	PIN JACK		

REMOTE CONTROL UNIT PARTS LIST (RM-C301G-2A)

⚠ Ref.No.	Part No.	Part Name	Description	Local
	UR52EC1286C	BATTERY COVER		

DIFFERENCE PARTS LIST BETWEEN AV-27D502/R AND AV-27D502/S

The picture tubes used for the models AV-27D502/R and AV-27D502/S are difference. The electrical parts are also difference according to the PICTURE TUBE.
In the DIFFERENCE PARTS LIST BETWEEN AV-27D502/R and AV-27D502/S, only difference points between these models are written. For other parts not mentioned in the list, please refer to the PARTS LIST(P34 – P40) for the AV-27D502/R.

DIFFERENCE PARTS LIST

MAIN PWB

⚠	Symbol No.	Part No.		Part Name
		AV-27D502/R	AV-27D502/S	
		SAC-1507A-M2	SAC-1506A-M2	MAIN PWB
	R1404	QRE121J-100Y (10Ω, 1/2W, J)	—	C R
⚠	L1511	QQR1027-002	QQR1027-004	LINIARITY COIL
⚠	L1521	QQLZ026-430 (43µH)	QQLZ026-880 (88µH)	HEATER CHOKE
⚠	C1510	QFZ0196-352 (3500pF,1.5kVH,±3%)	QFZ0196-452 (4500pF,1.5kVH,±3%)	MPP CAP.

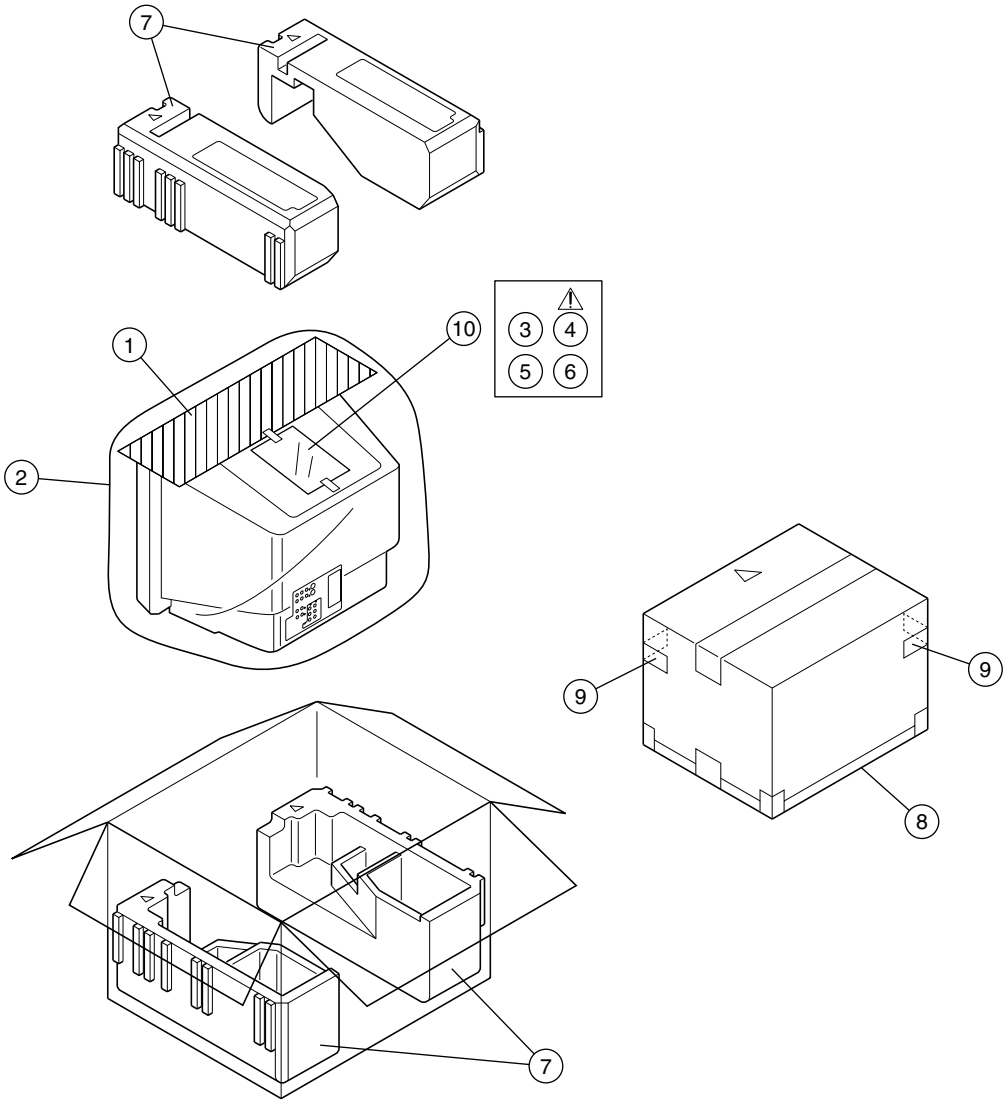
CRT SOCKET PWB

⚠	Symbol No.	Part No.		Part Name
		AV-27D502/R	AV-27D502/S	
		SAC-3507A-M2	SAC-3506A-M2	CRT SOCKET PWB

CRT SOCKET PW BOARD ASS'Y (SAC-3506A-M2)

⚠	Symbol No.	Part No.	Part Name	Description		Local
	RESISTOR					
	R3354-56	NRSA63J-221X	MG R	220Ω	1/16W J	
	R3357-59	NRSA63J-101X	MG R	100Ω	1/16W J	
	R3360-62	QRZ0111-152	C R	1.5kΩ	1/2W K	
	R3363-65	QRG029J-103	OM R	10kΩ	2W J	
	R3366-68	NRSA63J-182X	MG R	1.8kΩ	1/16W J	
	R3372-74	NRSA63J-221X	MG R	220Ω	1/16W J	
	R3375-77	NRSA63J-0R0X	MG R	0.0Ω	1/16W J	
	R3381	QRE121J-394Y	C R	390kΩ	1/2W J	
	R3391	NRSA63J-152X	MG R	1.5kΩ	1/16W J	
	R3392	NRSA63J-392X	MG R	3.9kΩ	1/16W J	
	R3393-95	NRSA63J-102X	MG R	1kΩ	1/16W J	
	CAPACITOR					
	C3354-55	NDC31HJ-331X	C CAP.	330pF	50V J	
	C3356	NDC31HJ-391X	C CAP.	390pF	50V J	
	C3357	QETN1CM-107Z	E CAP.	100µF	16V M	
	C3382	QCZ0121-102	C CAP.	1000pF	3000V Z	
	C3391	QETN1AM-227Z	E CAP.	220µF	10V M	
	C3392	NDC31HJ-101X	C CAP.	100pF	50V J	
	COIL					
	L3381	QQL244K-101Z	PEAKING COIL	100µH	K	
	DIODE					
	D3391	1SS133-T2	SI.DIODE			
	TRANSISTOR					
	Q3351-53	2SC4544-LB	SI.TRANSISTOR			
	Q3391	2SA933AS/QR/-T	SI.TRANSISTOR			
	OTHERS					
⚠	SK3351	QNZ0464-001	C.R.T.SOCKET			

PACKING



PACKING PARTS LIST

⚠	Ref.No.	Part No.	Part Name	Description	Local
	1	CP30055-001-A	TOP COVER		
	2	CP30056-008-A	POLY BAG		
	3	RM-C301G-2A	RC HAND UNIT		
⚠	4	LCT0903-001A-A	INST BOOK		
	5	BT-51020-1Q	REGISTER CARD		
	6	BT-52004-1Q	WARRANTY CARD		
	7	LC10367-002B-A	CUSHION ASSY	4pcs in 1set	
	8	LC10181-020A-A	PACKING CASE		
	9	CM36616-001-A	CORNER LABEL	2pcs in 1set	
	10	QPA02503505	POLY BAG		

JVC®

COLOR TELEVISION
USER'S GUIDE

For models:

AV-36D502
AV-36D302
AV-36D202
AV-32D502
AV-32D302
AV-32D202
AV-27D502

Illustration of AV-32D502 and RM-C301G

IMPORTANT NOTE TO THE CUSTOMER

In the spaces below, enter the model and serial number of your television (located at the rear of the television cabinet). Staple your sales receipt or invoice to the inside cover of this guide. Keep this user's guide in a convenient place for future reference. Keep the carton and original packaging for future use.

Serial Number

Model Number

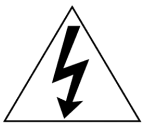
LCT0903-001B-A
0201-TN-JII-JIM

IMPORTANT SAFETY PRECAUTIONS

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: To reduce the risk of electric shock.
Do not remove cover (or back).
No user serviceable parts inside.
Refer servicing to qualified service personnel.



The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS TV SET TO RAIN OR MOISTURE.

CAUTION: TO INSURE PERSONAL SAFETY, OBSERVE THE FOLLOWING RULES REGARDING THE USE OF THIS UNIT.

1. Operate only from the power source specified on the unit.
2. Avoid damaging the AC plug and power cord.
3. Avoid Improper installation and never position the unit where good ventilation is unattainable.
4. Do not allow objects or liquid into the cabinet openings.
5. In the event of trouble, unplug the unit and call a service technician. Do not attempt to repair it yourself or remove the rear cover.

Changes or modifications not approved by JVC could void the warranty.

* When you don’t use this TV set for a long period of time, be sure to disconnect both the power plug from the AC outlet and antenna for your safety.

* To prevent electric shock do not use this polarized plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

IMPORTANT SAFEGUARDS

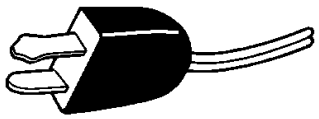
CAUTION:

Please read and retain for your safety.
Electrical energy can perform many useful functions. This TV set has been engineered and manufactured to assure your personal safety. But *improper use can result in potential electrical shock or fire hazards.* In order not to defeat the safeguards incorporated in this TV set, observe the following basic rules for its installation, use and servicing.
And also follow all warnings and instructions marked on your TV set.

INSTALLATION

1 Your TV set is equipped with a polarized AC line plug (one blade of the plug is wider than the other).

(POLARIZED-TYPE)



This safety feature allows the plug to fit into the power outlet only one way. Should you be unable to insert the plug fully into the outlet, try reversing the plug.
Should it still fail to fit, contact your electrician.

2 Operate the TV set only from a power source as indicated on the TV set or refer to the operating instructions for this information. If you are not sure of the type of power supply to your home, consult your TV set dealer or local power company. For battery operation, refer to the operating instructions.

3 Overloaded AC outlets and extension cords are dangerous, and so are frayed power cords and broken plugs. They may result in a shock or fire hazard. Call your service technician for replacement.

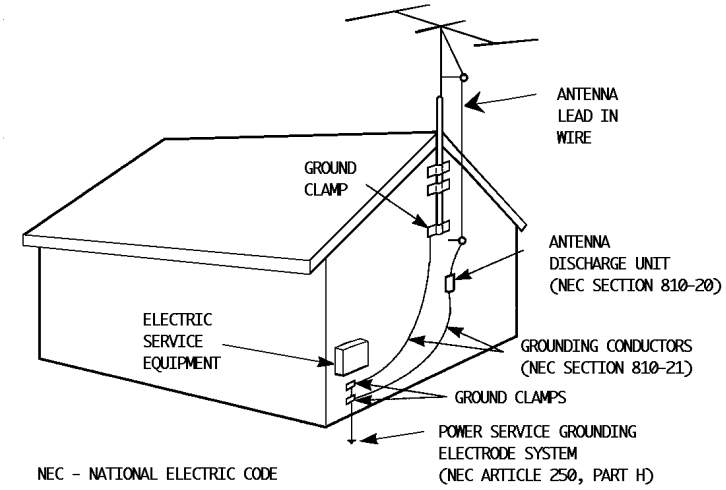
4 Do not allow anything to rest on or roll over the power cord, and do not place the TV set where power cord is subject to traffic or abuse. This may result in a shock or fire hazard.

5 Do not use this TV set near water — for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near swimming pool, etc.

6 If an outside antenna is connected to the TV set, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection requirements for the grounding electrode.

7 An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE


ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ARTICLE 250, PART H)
NEC - NATIONAL ELECTRIC CODE

8 TV sets are provided with ventilation openings in the cabinet to allow heat generated during operation to be released.
Therefore:
— Never block the bottom ventilation slots of a portable TV set by placing it on a bed, sofa, rug, etc.
— Never place a TV set in a “built-in” enclosure unless proper ventilation is provided.
— Never cover the openings with a cloth or other material.
— Never place the TV set near or over a radiator or heat register.

9 To avoid personal injury:
— Do not place a TV set on a sloping shelf unless properly secured.
— Use only a cart or stand recommended by the TV set manufacturer.
— Do not try to roll a cart with small casters across thresholds or deep pile carpets.
— Wall or shelf mounting should follow the manufacturer’s instructions, and should use a mounting kit approved by the manufacturer.

USE

10 Caution children about dropping or pushing objects into the TV set through cabinet openings. Some internal parts carry hazardous voltages and contact can result in a fire or electrical shock.

11 Unplug the TV set from the wall outlet before cleaning. Do not use liquid or an aerosol cleaner.

12 Never add accessories to a TV set that has not been designed for this purpose. Such additions may result in a hazard.

13 For added protection of the TV set during a lightning storm or when the TV set is to be left unattended for an extended period of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage to product due to lightning storms or power line surges.

14 A TV set and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the TV set and cart combination to overturn.

SERVICE

15 Unplug this TV set from the wall outlet and refer servicing to qualified service personnel under the following conditions:

A. When the power cord or plug is damaged or frayed.

B. If liquid has been spilled into the TV set.

C. If the TV set has been exposed to rain or water.

D. If the TV set does not operate normally by following the operating instructions. Adjust only those controls that are covered in the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the TV set to normal operation.

E. If the TV set has been dropped or damaged in any way.

F. When the TV set exhibits a distinct change in performance — this indicates a need for service.

16 Do not attempt to service this TV set yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

17 When replacement parts are required, have the service technician verify in writing that the replacement parts he uses have the same safety characteristics as the original parts. Use of manufacturer's specified replacement parts can prevent fire, shock, or other hazards.

18 Upon completion of any service or repairs to this TV set, please ask the service technician to perform the safety check described in the manufacturer's service literature.

19 When a TV set reaches the end of its useful life, improper disposal could result in a picture tube implosion. Ask a qualified service technician to dispose of the TV set.

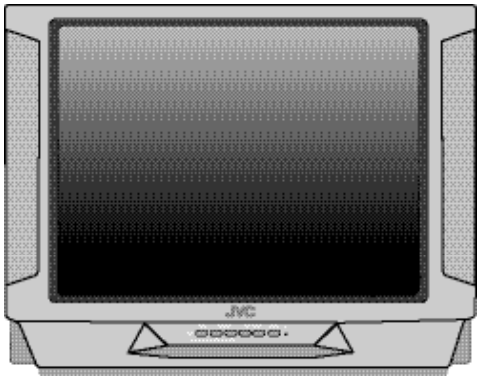
20 Note to CATV system installer.

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

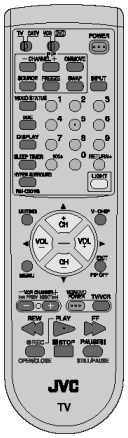
Unpacking Your Television

Thank you for your purchase of a JVC Color Television. Before you begin setting up your new television, please check to make sure you have all of the following items. In addition to this guide, your television box should include:

1 Television



1 Remote Control



Two AA Batteries

A matching TV stand is also available (optional).

Note: Your remote control may differ from the example illustrated here.

Once you have unpacked your television, the next step is to connect it to your antenna/cable or satellite system and to connect the audio/video devices you want to use with your television. To make these connections you will use plugs like the ones illustrated below.

RF Connectors

Used to connect a coaxial cable from an external antenna or Cable TV system.

A/V Input Plug

Used to connect audio/video devices like VCRs, DVD players, stereo amplifiers, game consoles, etc.

S-Video Plug

Used to make video connections with VCRs, DVDs, Camcorders, etc (optional).

AV Compu Link Cable

Used to connect JVC AV Compu Link capable components for an automated home theater

We recommend that before you start using your new television, you read your entire User's Guide so you can learn about your new television's many great features. But if you're anxious to start using your television right away, a quick setup guide follows on the next three pages.

Quick Setup 1

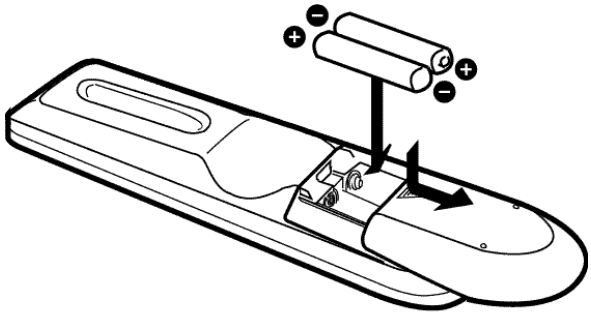
Getting Started

These quick setup pages will provide you, in three easy steps, with the basic information you need to begin using your new television right away. This information includes basic instructions on operating your remote control, making a simple cable/antenna and optional VCR connection and, finally, information on programming your television's Auto Tuner.

If you have questions, or for more detailed information on any of these steps, please consult other sections of this manual.

Step One - The Remote Control

The remote control is the key to operating your television's many great features. Before you can operate your remote control, you first need to install the batteries (included).

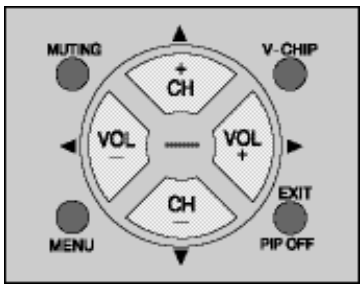


Slide the cover on the back of the remote down towards the bottom of the remote control. Insert two batteries (included) carefully noting the “+” and “–” markings, placing the “–” end in the unit first. Slide the cover back into place.

Basic Operation

Turn the television on and off by pressing the POWER button at the top right corner of the remote.

Power Button



Key Feature Buttons

The four key feature buttons at the center of the remote can be used for basic operation of the television. The top and bottom buttons will scan forward and back through the available channels. The right and left buttons will turn the volume up or down. These buttons are also marked with four arrows and are also used with JVC's onscreen menu system. You will need to use these buttons later in the Quick Setup.

The next step is to connect your television to an antenna or cable.

Proceed to Step Two ☞

Quick Setup 2

Step Two - Making Basic Connections

Next you will need to connect your television to an antenna or cable system. The most basic antenna/cable connection is shown below. For more detailed connections, such as ones where a cable box is required, see pages 11 to 13.

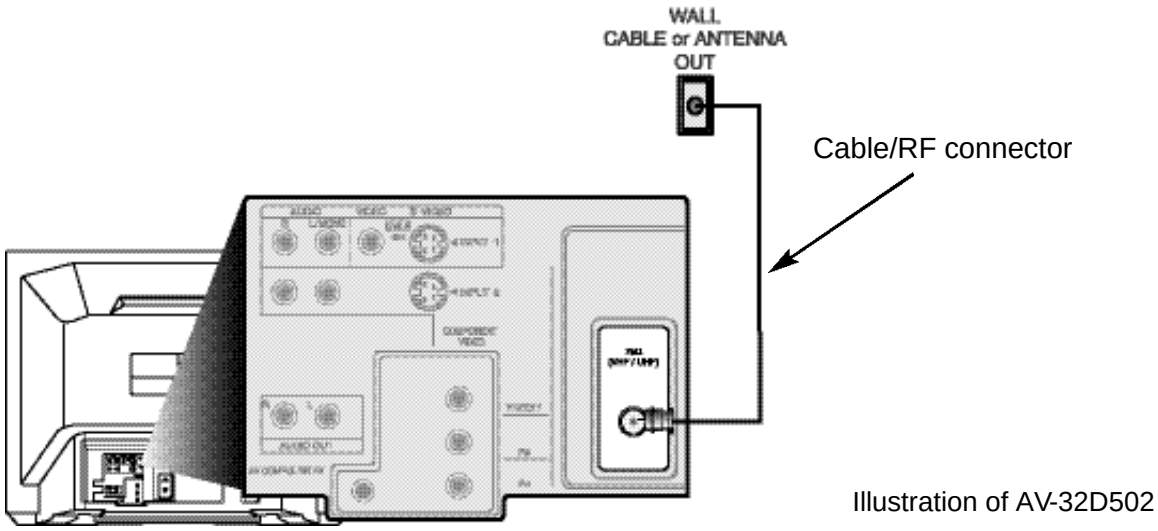


Illustration of AV-32D502

1) Connect an RF cable out from the wall outlet in to the RFInput on the back of the TV.

You may also wish to connect a VCR at this point. Abasic VCRconnection is shown below. For detailed instructions on connecting a other components or a home theater system, see pages 14 to 16.

Note: A VCR is not required to operate your television.

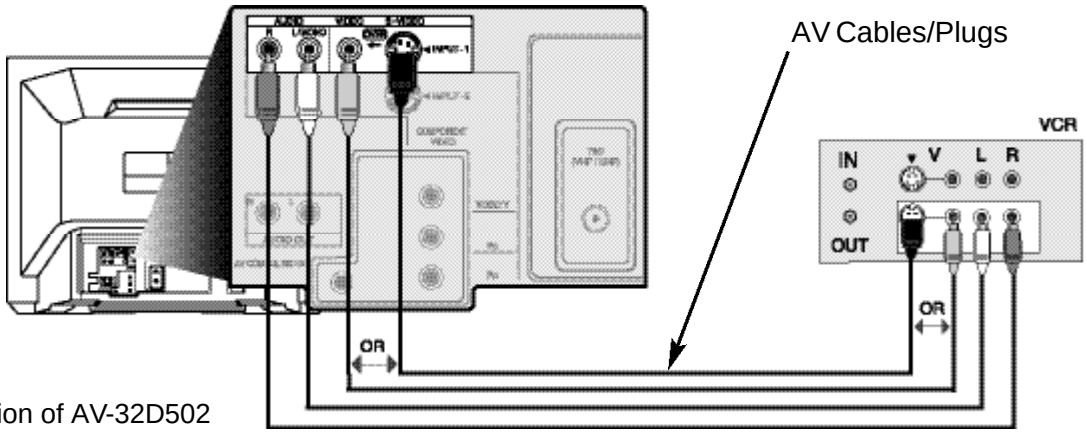


Illustration of AV-32D502

1) Connect the yellow video cable out from the VCR's Video Output, in to the TV's Video Input jack, **OR** connect an S-Video cable from the VCR's S-Video output, to the TV's S-Video input.
2) Connect the white audio cable out from the VCR's Left Audio Output, in to the TV's Left Audio Input Jack.
3) Connect the red audio cable out from the VCR's RightAudio Output, in to the TV's Right Audio Input jack.

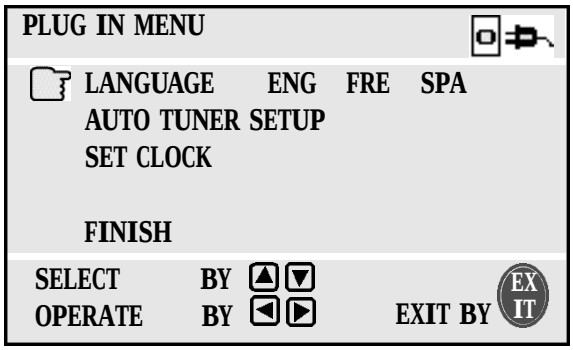
Finally, once you have finished your connections, plug the power cord into the nearest power outlet and turn on the television.

Proceed to Step Three ☞

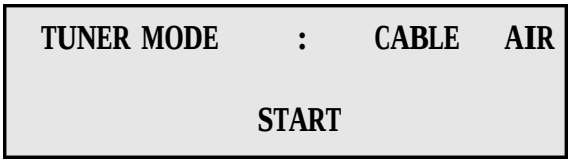
Quick Setup 3

Step Three - The Plug In Menu

When you turn your television on for the first time the Plug In Menu will appear. This menu sets some of the basic settings for your television. A complete description of the Plug In Menu can be found starting on page 22. We recommend you complete the Plug In Menu items before you start using your television. But to begin watching your television right away you only need to run the Auto Tuner Setup. This lets your television learn the channels it is able to receive. To run the Auto Tuner Setup follow the steps below.

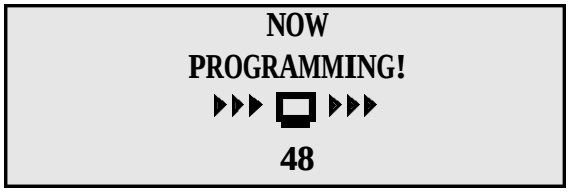


Press the ▲▼ buttons to move to AUTO TUNER SETUP
Press the ◀▶ buttons to begin AUTO TUNER SETUP



◀▶ To choose CABLE (if you are connected to a cable system) or AIR (if you use an antenna)
▲▼ To move to START
◀▶ To start Auto Tuner Setup

The Auto Tuner will now memorize all of the clear, active channels your television can receive. This will take one or two minutes.



The Auto Tuner is finished when the message PROGRAMMINGOVER! appears onscreen.

Your Quick Setup is now complete. You can now begin watching your television, or you can continue on in this guide for more information on connecting audio/video devices, programming your remote control, or using the JVC onscreen menu system to customize your television viewing experience.

The Quick Setup is complete

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Cable and VCR Connections

There are three basic types of antenna or cable connections:

- If you have an antenna or have a cable system that does not require you use a cable box to select channels, please refer to Diagram #1.
- If you have a cable system that requires the use of a cable box to access all the channels, please refer to Diagram #2. If you cannot operate your Picture-In-Picture function using Diagram #2, try the connection shown in Diagram #3. It is possible your cable box allows the signal of only one channel at a time to be sent to your television.
- If you have a cable system that requires the use of a cable box to access certain premium channels, but not "basic" cable channels, please refer to Diagram #3.
- For your convenience, connection to a VCR is also shown in the following diagrams. *A VCR is not necessary for operation of the television or Picture-In-Picture (PIP) function*. You may omit the VCR from your connections if you wish.
- For instructions on connecting a VCR only, please see the Quick Setup on page 8.
- For information on using PIP, please see page 44.
- **The PIP feature is available on series D502 models only.**

Diagram #1

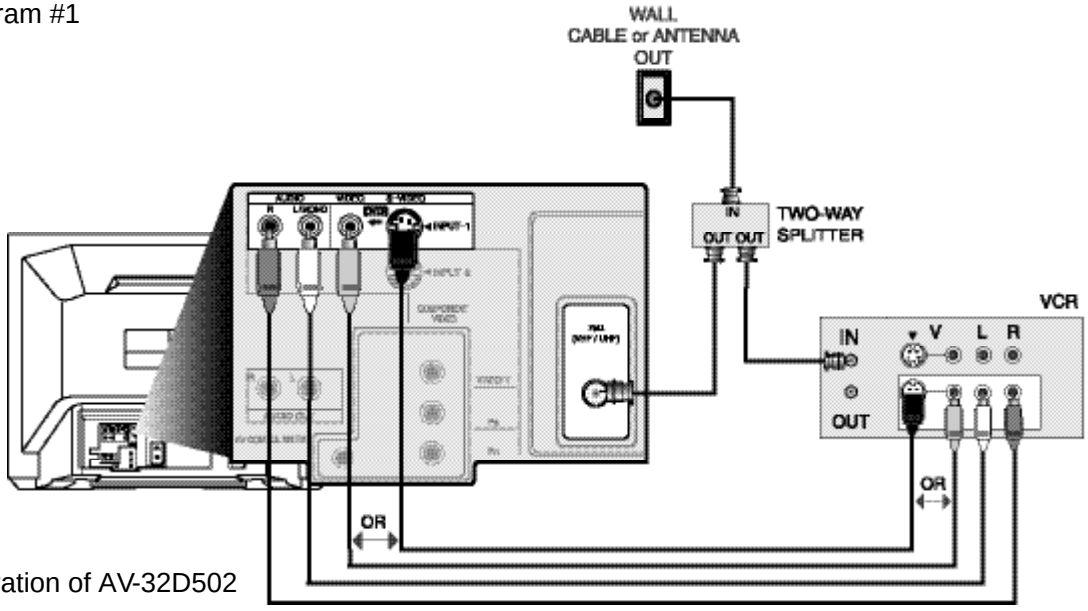


Illustration of AV-32D502

1) Connect the antenna or cable TV wire from the wall outlet, in to the RFInput of the two-way splitter.
2) Connect an RF cable from the one of the RFOutputs on the splitter, in to the RF Input on the back of the VCR.
3) Connect an RF cable from the other the RF Output on the splitter, in to the RF Input on the back of the TV.
4) Connect the yellow video cable out from the VCR's Video Output, in to the TV's Video Input jack, **OR** connect an S-Video cable from the VCR's S-Video output, to the TV's S-Video input.
5) Connect the white audio cable out from the VCR's Left Audio Output, in to the TV's Left Audio Input Jack.
6) Connect the red audio cable out from the VCR's Right Audio Output, in to the TV's Right Audio Input jack.

- If your VCR is a mono sound unit, it will have only one Audio Out jack. Connect it to the TV's Left Audio Input.
- Please consult your VCR's owner's manual for more information on its operation.

Connections

Cable and VCR Connections - Continued

Diagram #2

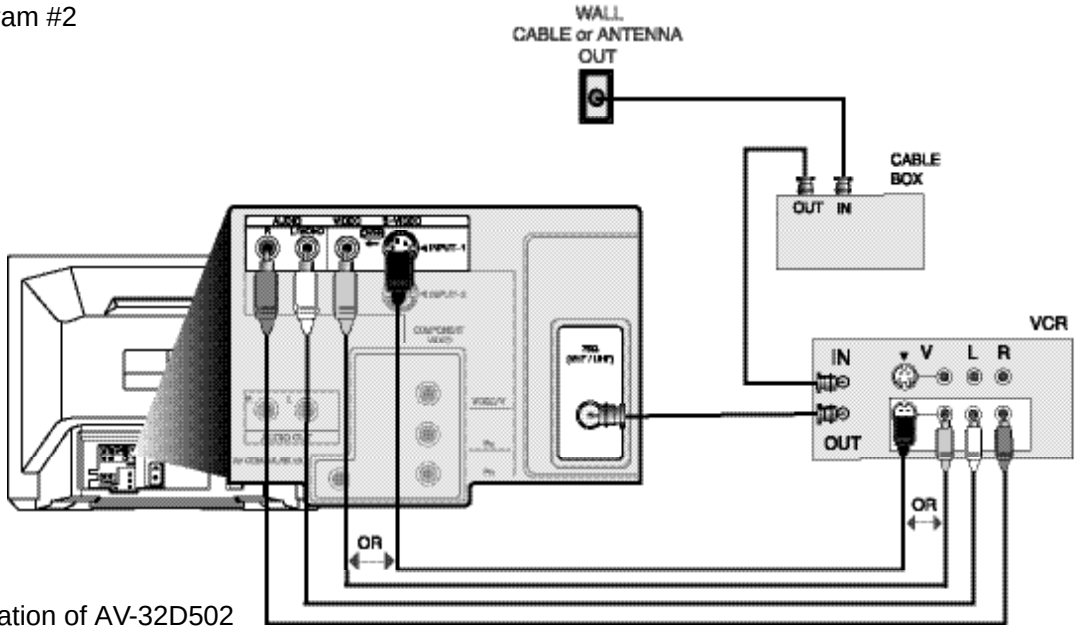


Illustration of AV-32D502

1) Connect the antenna or cable TV wire from the wall outlet, in to the RFInput of the cable box.
2) Connect an RF cable from the RF Output of the cable box, in to the RF Input on the back of the VCR.
3) Connect an RF cable from the RF Output of the VCR, in to the RF Input on the back of the TV.
4) Connect the yellow video cable out from the VCR's Video Output, in to the TV's Video Input jack, **OR** connect an S-Video cable from the VCR's S-Video output, to the TV's S-Video input.
5) Connect the white audio cable out from the VCR's Left Audio Output, in to the TV's Left Audio Input Jack.
6) Connect the red audio cable out from the VCR's Right Audio Output, in to the TV's Right Audio Input jack.

- Please see page 44 for information on using the PIP feature with a Cable Box.
- If your VCR is a mono sound unit, it will have only one Audio Out jack. Connect it to the TV's Left Audio Input.
- Please consult your VCR's owner's manual for more information on its operation.

Cable and VCR Connections - Continued

Diagram #3

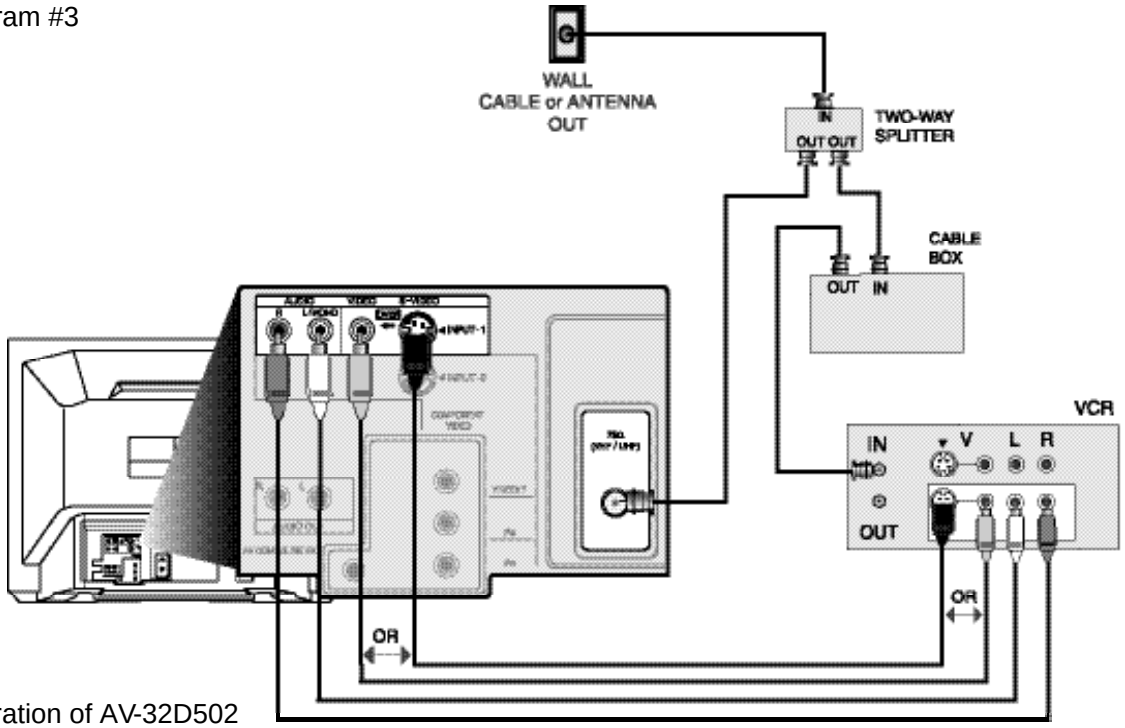


Illustration of AV-32D502

1) Connect the antenna or cable TV wire from the wall outlet, in to the RFInput of the two-way splitter.
2) Connect an RFcable from the one of the RFOutputs on the splitter, in to the cable box RF Input.
3) Connect an RFcable from the Cable Box Output, in to the VCR RFInput.
4) Connect an RFcable from the other the RFOutput on the splitter, in to the RFInput on the back of the TV.
5) Connect the yellow video cable out from the VCR's Video Output, in to the TV's Video Input jack, **OR** connect an S-Video cable from the VCR's S-Video output, to the TV's S-Video input.
6) Connect the white audio cable out from the VCR's Left Audio Output, in to the TV's Left Audio Input jack.
7) Connect the red audio cable out from the VCR's RightAudio Output, in to the TV's Right Audio Input jack.

- Please see page 44 for information on using the PIP feature with a Cable Box.
- If your VCR is a mono sound unit, it will have only one Audio Out jack. Connect it to the TV's Left Audio Input.
- Please consult your VCR's owner's manual for more information on its operation.

The connection diagrams are intended to show some basic general connections.Some cable companies may require special connections to properly use your television or 2-tuner PIP function.If you follow these diagrams and either the television or PIP does not work properly, contact your local cable operator for more connection information. Please see page 44 for more information on the PIP feature.

Connections

Connecting to a DVD player

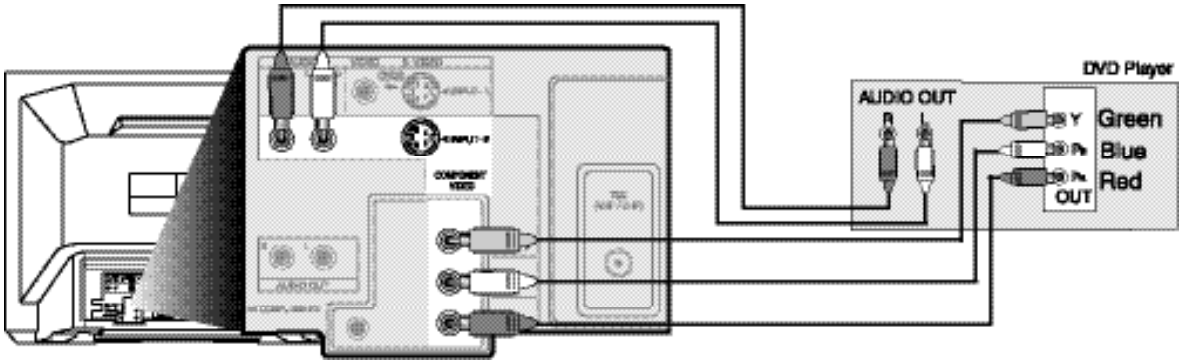


Illustration of AV-32D502

1) Connect Green cable out from DVDplayer "Y"Component Output, in to TV"Y" Component Input.
2) Connect Blue cable out from DVDplayer "P_B"Component Output, in to TV"P_B"Component Input.
3) Connect Red cable out from DVDPlayer "P_R"Component Output, in to TV"P_R" Component Input.
4) Connect White Audio cable out from DVDLeft Audio Output, in to TV Left Audio Input 2.
5) Connect Red Audio cable out from DVDRight Audio Output, in to TV Right Audio Input 2.

- Green, blue and red are the most common colors for DVD cables. Some models may vary colors, please consult the user's manual for your DVDPlayer for more information.
- Be careful not to confuse the red DVDcable with the red audio cable. It is best to complete one set of connections (DVDor Audio Output) before starting the other to avoid accidentally switching the cables.
- See page 20 for instructions on programming your remote control to operate the basic functions of your DVD player.
- If you use Input 2 (Component-In) for the DVD connection, you must set the V2 COMPONENT-IN on the initial Setup Menu to "YES" for proper display of the DVD signal.
- **NOTE:** Progressive DVDPlayers (players with an output scan of 31.5 KHz) will not work properly with this television.

Connecting to an External Amplifier

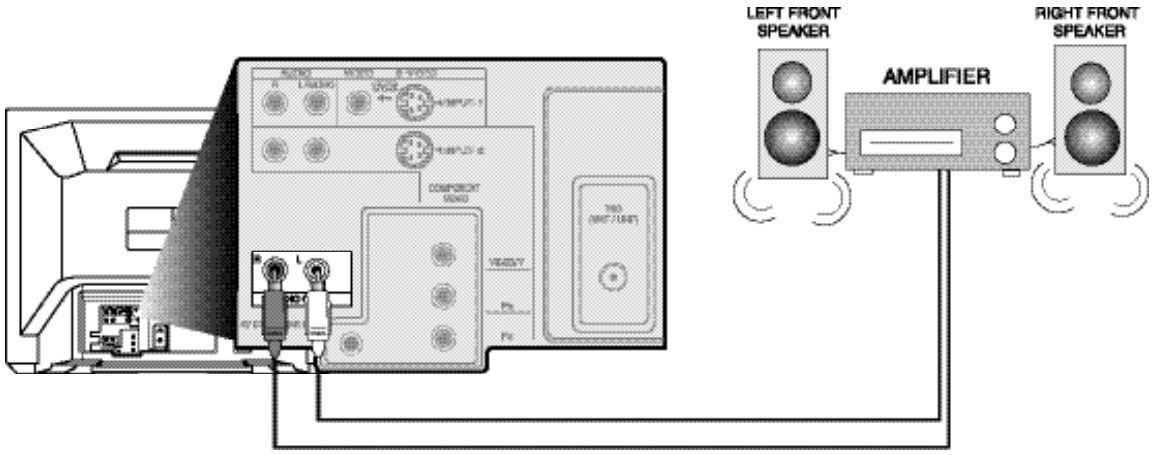


Illustration of AV-32D502

1) Connect the white audio cable from the TV's Left Audio Output jack to the Amplifier's Left Audio Input jack.
2) Connect the red audio cable from the TV's Right Audio Output jack to the Amplifier's Right Audio Input jack.

• See also "TVSpeaker" on page 38 for more information on using external speakers.

Connecting to a Camcorder

You may connect a camcorder to your television by using the front Input Jacks (Input 3) located under the front panel door. To access, press lightly on the door to open it. You may also connect a game console or other equipment using these jacks. Camcorders may also be connected to the television's rear input jacks.

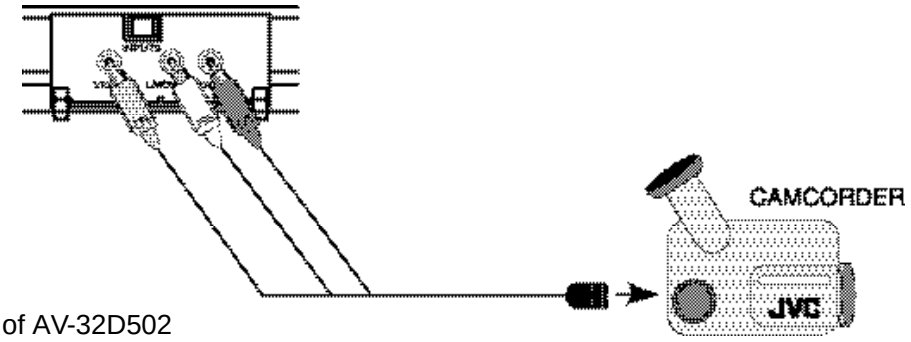


Illustration of AV-32D502

1) Connect the yellow video cable out from the Camcorder's Video Output, in to the TV's Video Input jack.
2) Connect the white audio cable out from the Camcorder's Left Audio Output, in to the TV's Left Audio Input Jack.
3) Connect the red audio cable out from the Camcorder's Right Audio Output, in to the TV's Right Audio Input Jack.

• If your Camcorder is a mono sound model it will have only one audio jack. Connect it to the TV's Left Audio Jack.

Connections

Connecting to JVC AV Compu Link

JVC'sAV Compu Link feature makes playing video tapes or DVDs totally automatic. Simply insert a pre-recorded tape* into your JVC-brand VCR or DVD into your JVC DVD player and the device will automatically turn on and begin playback. At the same time, using the AV Compu Link, the VCR or DVD player sends a signal to the television telling it to turn on and switch to the proper video input

- The AV Compu Link cable may be included with the JVC AV Compu Link accessory you wish to connect.If it is not, contact an authorized JVC Service Center for part # EWP 805-012.
- AV Compu Link can only be used with JVC-brand products.

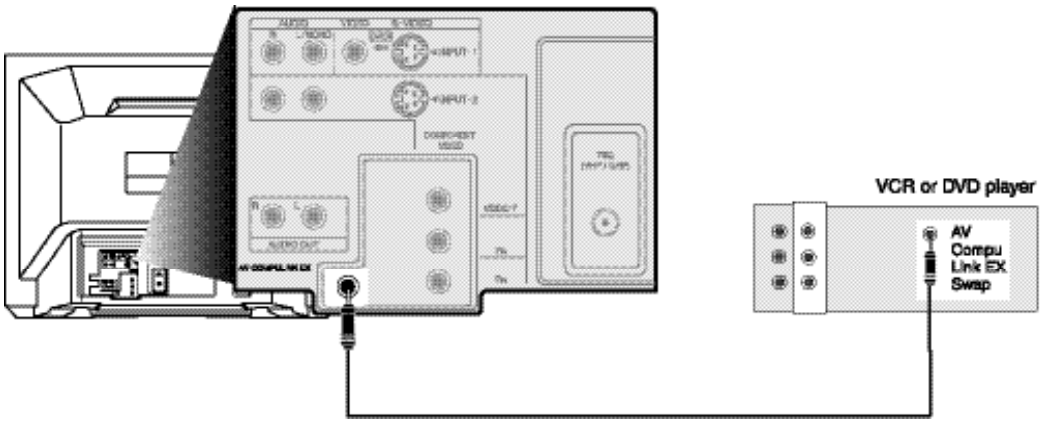


Illustration of AV-32D502

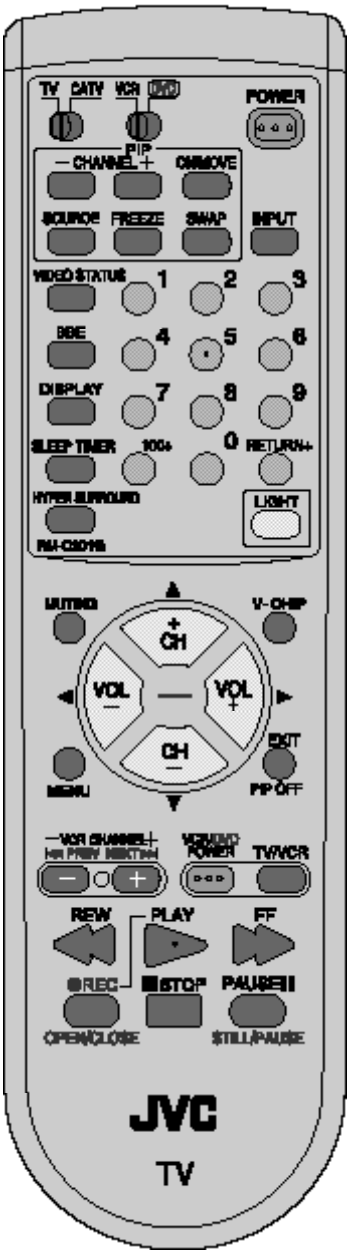
To Connect: Plug one end of the AVCompu Link cable into the AVCompu Link input on your VCR, DVD, or other Compu Link device. Plug the other end of the AV Compu Link cable into the AV Compu Link input at the rear of the television.

NOTES:

* *In order for the VCRplayback to begin automatically, the recording tabs must be removed from the VHStape. If the tab is in place, automatic switching will occur when you push the VCR's PLAY button.*

- *The AV Compu Link cable has a male 3.5 mm (mono) plug on each end.*
- *If your JVC-brand VCR has "A Code/B Code Remote Control Switching" (see your VCR's instruction book), using VCR A Code will switch the TV to input 1.*
- *To connect a JVC HiFi receiver or amplifier for a completely automated home theater, see the HiFi's connection instructions for detailed connection information.*
- *AV COMPU LINK EX is compatible with the following receivers:RX-664V, RX-665V, RX-668VBK, RX-774V, RX-778VBK, RX-884V, RX-888VBK, RX-1024V, RX-1028VBK, and later receiver models.*

Remote Control



Remote Control Basics

- Before you can operate the remote control, you must first install the batteries (included). See “Changing the Batteries” at the bottom of this page for instructions. (For an illustration, please see page 7.)
- Press the POWER button to turn the television on or off.
- Make sure the TV/CATV switch is set to TV. Move the switch to CATV only if you need to operate a cable box.
- Slide the VCR/DVD selector switch to VCR to control a VCR, slide to DVDto control a DVD player. Please see pages 18 to 20 for instructions on programming your remote control to operate a Cable box, VCR or DVDplayer.
- Press the CH+ and CH- buttons to scan through the channels. Tap the CH+ or CH- button to move through the channels one channel at a time.
- To move rapidly through the channels using JVC’s **Hyperscan** feature, press and hold CH+ or CH-. The channels will zip by at a rate of five channels per second.
- Press VOL+ or VOL - to raise or lower the volume. An indicator bar will appear onscreen to show you the television volume level.
- The CH+/- and VOL+/- buttons are also used to navigate JVC’s onscreen menu system.
- You can directly access specific channels using the 10-key pad.
- For more information on remote control button features, see pages 40 to 45. For information on using the onscreen menus, see page 21.

Notes: Remote control model RM-C301G is shown at the left. A different model remote control may have come with your television.

Changing the Batteries

Push down on the remote’s back cover and slide towards the bottom to remove it.

Insert two AAbatteries (supplied), carefully noting the "+" and "-" markings on the batteries and on the remote control. To avoid a potential short circuit, insert the "-" end first. Be sure to use only size AA batteries.

When batteries are installed, slide the cover back into place (until it clicks into position).

• If the remote control acts erratically, replace the batteries. Typical battery life is six months to one year. We recommend using alkaline batteries for longer battery life.

When you change the batteries, try to complete the task within three minutes. If you take longer than three minutes, the remote control codes for your VCR, DVD, and/or Cable Box may have to be reset (see page 18-20).

Remote Programming

Setting the CATV, VCR and DVD Codes

You can program your remote to operate your cable box, satellite receiver, VCR or DVD player by using the instructions and codes listed below. If the equipment does not respond to any of the codes listed below or to the code search function, use the remote control supplied by the manufacturer.

Cable Box or Satellite codes

The remote control is programmed with CATV and/or Satellite codes for power on, power off, channel up, channel down, and 10 key operation.

1) Find the CATV/Satellite brand from the list of codes shown below.
2) Slide the 2-way selector switch to “CATV”.
3) Press and hold down the DISPLAY button.
4) With the DISPLAY button held down, enter the first code number listed using the 10 key pad.
5) Release the DISPLAY button.
6) Confirm the operation of the Cable Box/Satellite receiver.

• If your CATV or Satellite box does not respond to the first code, try the others listed. If it does not respond to any code, try the Search Codes Function, on page 50.

Cable Box	CODES
ABC	024
Archer	032, 025
Cableview	051, 032
Citizen	022, 051
Curtis	058, 059
Diamond	024, 032, 025
Eagle	029
Eastern	034
GC Brand	032, 051
Gemini	022, 043
General Instrument	065, 024, 025, 026, 027, 020, 021, 022, 067, 023
Hamlin	040, 041, 042, 045, 058, 064
Hitachi	049, 024
Jerrold	065, 024, 025, 026, 027, 020, 021, 022, 067, 023
Macom	049, 050, 051, 054
Magnavox	033
Memorex	090
Movietime	032, 051
Oak	039, 037, 048
Panasonic	055, 056, 060, 071
Paragon	063
Philips	028, 029, 030, 052, 053, 031, 069
Pioneer	047, 062
Pulsar	051, 032

Cable Box	CODES
Puser	032
RCA	061, 070
Realistic	032
Regal	058, 064, 040, 041, 042, 045, 068
Regency	034
Rembrandt	037, 032, 051, 038
Samsung	051
Scientific Atlanta	057, 058, 059
SLMark	051, 047
Sprucer	051, 056
Stargate	032, 051
Telecaption	057
Teleview	047, 051
Texscan	044
Tocom	035, 036, 066
Toshiba	050
Unika	032, 025
Universal	022, 032
Videoway	052
Viewstar	029, 030
Zenith	063, 046
Zenith/Drake Satellite	046

Digital Satellite Systems	CODES
Echostar	100, 113, 114
Express VU	100, 113
G.E.	109
G.I.	106
Gradiente	112
Hitachi	104, 111
HNS (Hughes)	104
Panasonic	105
Philips	102, 103
Primestar	108
Proscan	106, 109, 110
RCA	106, 109, 110
Sony	107
Star Choice	104, 108
Toshiba	101
Uniden	102, 103

VCR codes

The remote control is programmed with VCR codes for power on, power off, play, stop, fast-forward, rewind, pause, record, channel up, and channel down operation.

1) Find the VCR brand from the list of codes shown below.
2) Slide the first 2-way selector switch to “TV” and the other 2-way selector switch to “VCR”.
3) Press and hold down the DISPLAY button.
4) With the DISPLAY button held down, enter the first code number listed with the 10 key pad.
5) Release the DISPLAY button.
6) Confirm the operation of the VCR.

- If your VCR does not respond to the first code, try the others listed. If it does not respond to any code, try the Search Codes Function, on page 50.
- Some manufacturer’s VCR’s may not respond to the TV/VCR button, even if other buttons work properly.
- To record, hold down the REC button on the remote and press PLAY.

VCRs	CODES
Admiral	035
Aiwa	027, 032, 095
Akai	029, 072, 073, 074
Audio Dynamic	003, 005
Bell & Howell	063, 071
Broksonic	020, 026, 094
Canon	023, 025
CCE	043
Citizen	064
Craig	063, 029, 064
Curtis Mathes	045, 024, 027, 093
Daewoo	043, 059, 024, 092
DBX	003, 004, 005
Dimensia	045, 093
Emerson	043, 026, 077, 061, 025, 042, 020, 076
Fisher	063, 066, 067, 065, 071, 091
Funai	027, 028, 020, 000
G.E.	033, 045, 024
Go Video	037, 051, 049, 050, 069
Goldstar	064
Gradiente	063, 064, 061, 000, 001
Hitachi	023, 045, 058, 027, 061, 093
Instant Replay	024, 023
Jensen	003
JVC	000, 001, 002, 003, 004, 005
Kenwood	003, 004, 064, 005
LXI	027, 064, 058, 065, 066, 063, 067
Magnavox	031, 023, 024, 066
Marantz	003, 004, 005
Marta	064
Memorex	024, 067
MGA	038, 040, 047, 048, 041, 042
Minolta	058, 045, 093
Mitsubishi	038, 040, 047, 048, 041, 042, 078, 090
Multitech	047, 027, 062
NEC	003, 004, 005, 000
Olympic	024, 023
Optimus	025, 021, 035, 064
Orion	026, 020
Panasonic	023, 024, 021, 022
Penney	024, 058, 045, 063, 003, 004, 005, 093
Pentax	058, 035, 045, 093
Philco	031, 024, 027, 023, 026, 020, 043
Philips	031, 023, 024, 066
Pioneer	023
Proscan	045, 058, 023, 024, 031, 046, 059, 060, 033, 067, 063
Quasar	021, 022, 023, 024
Radio Shack	033, 024, 063, 036, 067, 040, 027
RCA	033, 046, 058, 023, 024, 031, 046, 059, 060, 033, 034, 035, 067, 093
Realistic	024, 063, 036, 067, 040, 027
Samsung	037, 060, 062, 033, 069
Samtron	069
Sansui	003, 026, 020, 062
Sanyo	063, 067, 091, 071
Scott	059, 060, 062, 067, 038, 040, 047, 048, 026, 020
Sears	063, 094, 095, 066, 058, 000, 001
Shintom	075
Sharp	035, 038, 060, 058
Signature 2000	027, 035
Singer	075
Sony	028, 029, 030, 053, 054, 055
SV 2000	027
Sylvania	031, 023, 024, 027
Symphonic	027, 091
Tashiro	064
Tatung	003, 004, 005
Teac	003, 004, 027, 005
Technics	021, 022, 023, 024
Teknika	024, 027, 070
Toshiba	058, 045, 078
Vector Research	005
Wards	035, 038, 067, 044, 064
Yamaha	069, 003, 004, 005
Zenith	044, 052, 064, 094

Remote Programming

DVD codes

The remote control is programmed with DVD codes for power on, power off, play, stop, fast-forward, rewind, previous chapter, next chapter, tray open/close, and still/pause operation.

1) Find the DVD player brand from the list of codes shown below.
2) Slide the first 2-way selector switch to “TV” and the other 2-way selector switch to “DVD”.
3) Press and hold down the DISPLAY button.
4) With the DISPLAY button held down, enter the first code number listed with the 10 key pad.
5) Release the DISPLAY button.
6) Confirm the operation of the DVD player.

- If your DVD player does not respond to the first code, try the others listed. If it does not respond to any code, try the Search Codes Function, on page 50.
- After you program your remote, some DVD buttons may not work properly. If some buttons do not work properly, use the remote control which came with your DVDplayer.

DVD Player	CODES	DVD Player	CODES
Aiwa	043	Rote	033
Apex	040	RCA	021, 026
Denon	020, 037	Sampo	034
Hitachi	030, 031	Samsung	030
JVC	000	Sharp	026
Kenwood	035	Silvania	038
Konka	039	Sony	024, 045, 048, 047
Mitsubishi	025		
Onkyo	041	Technics	020
Oritron	044	Toshiba	023
Panasonic	020	Wave	042
Philips	023, 036	Yamaha	020
Pioneer	022	Zenith	027, 032

Using the Guide

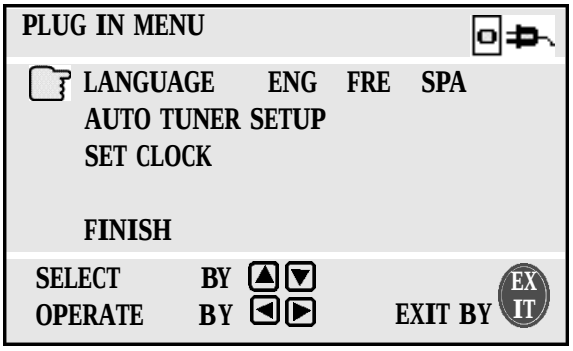
Certain symbols are used throughout this guide to help you learn about the features of your new television. The ones you will see most frequently are:

▲▼ Up and Down arrows mean press the CH+ or CH- buttons. Pressing the CH+ or CH- buttons let you:
- Move vertically in a main menu screen
- Move through a submenu screen
- Move to the next letter, number, or other choice in a submenu
- Back up to correct an error
- Scan through TVchannels (when not in a menu screen)

◀▶ Left and right arrows mean press the VOLUME+ or VOLUME- buttons to move left or right to:
- Select a highlighted menu item
- Select an item in a submenu
- Select numbers in certain menu options
- Turn the volume up or down (when not in a menu screen)

The "Press Button"icon means you should press the button named on your remote control. (Button names appear in SMALL CAPITAL LETTERS.)

The "Helping Hand" icon points to the highlighted or selected item in a menu.



The Onscreen Menus

To bring up the onscreen menu, press the MENU button on the remote control. The item that appears in yellow is the one currently selected. If you press the MENU button again, the onscreen display will skip to the next menu screen. If you use the Menu button on the TV's front panel instead of the remote, an additional menu screen showing channel number and input will appear. The "Plug In Menu" will appear the first time the TV is plugged in.

Notes: Menus shown in this book are illustrations, not exact replications of the television's onscreen displays.

Plug In Menu

Introduction

The Plug In Menu comes up automatically when you first turn on the TV after plugging it in. The Plug In Menu helps you to get your TV ready to use by letting you set your preferences for:

- The Language in which you want the onscreen menus to appear,
- The Auto Tuner Setup of which channels you wish to receive,
- Setting the TV's clock to the correct time so your timer functions will work properly.

Descriptions of each of the Plug In Menu features appear on this page and the next. We recommend you complete the Plug In Menu setup first so your TV is set up just the way you want, right away.

Language

You can choose to view your onscreen menus in three languages: English, French, or Spanish.

Press the MENU button

▲▼ To LANGUAGE

◀▶ To choose a language

• You will not need to press the MENU button to enter this screen from the Plug In Menu.

Auto Tuner Setup

In Auto Tuner Setup, the TV automatically scans through all available channels, memorizing the active ones and skipping over blank ones or channels with weak signals. This means when you scan (using the CHANNEL +/- buttons) you will receive only clear, active channels.

Press the MENU button

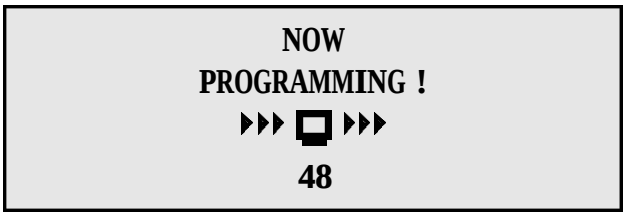
▲▼ To AUTO TUNER SETUP

◀▶ To operate

◀▶ To choose CABLEor AIR

▲▼ To move to START

◀▶ To start Auto Tuner Setup



Programming will take approximately 1 to 2 minutes.

- Noise Muting will not work during Auto Tuner Setup.
- You will not need to press the MENU button to enter this screen from the Plug In Menu.

Auto Clock Set

Before you use any of your TV's timer functions, you must first set the clock. You may precisely set your clock using the XDS time signal broadcast by most Public Broadcasting stations. To set the clock using the XDS signal:

- Enter the channel number of your local PBS station
- Press MENU
- ▲▼ To SET CLOCK
- ◀▶ To operate
- ◀▶ To AUTO

MODE	**AUTO**	**MANUAL**
TIME ZONE		**EASTERN**
D.S.T.	**ON**	**OFF**
	FINISH	

- ▲▼ To TIME ZONE
- ◀▶ To select your time zone

ATLANTIC ⟷ EASTERN ⟷ CENTRAL ⟷ MOUNTAIN ⟷ PACIFIC ⟷ ALASKA ⟷ HAWAII

- ▲▼ To move to Daylight Savings Time (D.S.T.)
- ◀▶ To turn D.S.T. ON or OFF
- ▲▼ To FINISH
- ◀▶ To save settings and exit

• If you do not have a PBS station in your local area, you will have to set the clock manually. See 'Manual Clock Set'on the next page for instructions.

• The Daylight Savings Time feature automatically adjusts your TV's clock for Daylight Savings. The clock will move forward one hour at 2:00 am on the first Sunday in April. The clock will move back one hour at 2:00 am on the last Sunday in October.

• You will not need to press the MENU button to enter this screen from the Plug In Menu.

Plug In Menu

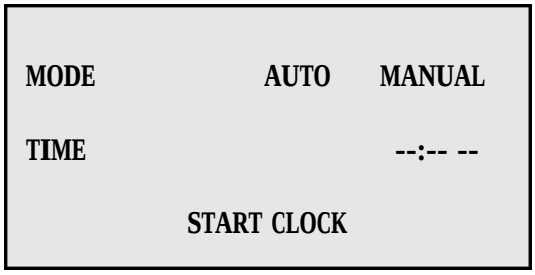
Manual Clock Set

To set your clock manually (without using the XDS signal), choose MANUALfrom the Set Clock menu and follow the steps below.

▲▼ To SET CLOCK

◀▶ To operate

◀▶ To MANUAL



▲▼ To move to the hour

◀▶ To set the hour

▲▼ To move to minutes

◀▶ To set the minutes

▲▼ To move to START CLOCK

◀▶ To start clock and exit

• You will not need to press the MENU button to enter this screen from the Plug In Menu.

Finish

Once you have the items in the Plug In Menu set to your personal preferences, move to the Finish option to save your settings.

▲▼ To FINISH

◀▶ To save settings and exit

• You can change the preferences you set in the Plug In Menu at any time using the regular JVC onscreen menu system.

NOTES:

You will have to reset the clock after a power interruption. You must set the clock before operating any timer functions.

Channel Summary

Channel Summary allows you to customize the line-up of channels received by your TV. You can add or delete channels from the line-up or prevent any unauthorized viewers from watching any or all 181 channels.

Press the MENU button

▲▼ To CHANNELSUMMARY

◀▶ To operate

CHNO.	SCAN	🔒	CHNO.	SCAN	🔒
01			06	✓	
02	✓		07		
03	✓		08		
04	✓		09	✓	
05	✓		10	✓	

The Channel Summary screen (above) will now be displayed with the channels set to scan marked with an "✓". You can delete channels from the scan by removing the "✓". If any channels were missed during Auto Tuner Setup and you wish to add them, you may by placing an "✓" next to the channel number.

▲▼ To the SCAN column

◀▶ To include or delete from scan

EXIT when finished

You can block access to a channel by activating the Channel Lock.

▲▼ To CHANNEL SUMMARY

◀▶ To operate

▲▼ To the Lock Column

ZERO to lock or unlock that channel

EXIT when finished

Channel Guard Message

When a viewer attempts to watch a guarded channel, the following message appears:

```
THIS CHANNEL IS LOCKED BY
CHANNEL GUARD.
PLEASE ENTER LOCK CODE BY
10 KEY PAD TO UNLOCK IT.
          NO. - - - -
```

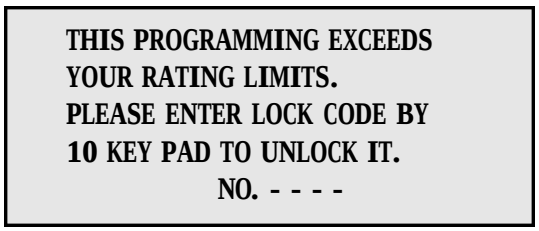
To watch a channel that you have locked, enter the Lock Code using the 10 key pad. If the wrong code is entered, the message "INVALID LOCK CODE!" will flash on the screen:

The channel cannot be accessed until the correct code is entered.

- Once a channel has been unlocked, it will remain unlocked until the television is turned off.
- See also "Set Lock Code", page 33.

V-Chip

Your TV is equipped with V-Chip technology which enables TV Parental Guidelines (for United States and Canada) and Movie (MPAA) Guideline controls. V-Chip technology allows you to program your TVto receive, or not to receive, programs based on content according to the guidelines. Programs which exceed the ratings limits you set will be blocked. When a viewer attempts to watch a blocked channel, this message appears:



The channel will remain blocked until the correct lock code is entered (see page 33 for information on setting your lock code).

You can customize the V-Chip settings of your television to match your personal tastes. The V-Chip menu below is the starting point for your V-Chip settings

You can use US V-Chip settings (for programming broadcast from the United States), Canadian V-Chip settings (for programming broadcast from Canada), and movie ratings. You may use any or all of the settings (US V-Chip, Canada V-Chip, Movie ratings). Descriptions for setting each of the three V-Chip formats appear in the next seven pages along with descriptions of the rating categories.

To access the rating categories:

- Press the MENU button
- ▲▼ To V-CHIP
- ◀▶ To operate (Lock icon will appear)
- Press ZERO to access the V-Chip menu
- ◀▶ To turn V-Chip ON or OFF (V-Chip must be turned ON for rating settings to operate)
- ▲▼ To move to SET US TVRATINGS, SETMOVIE RATINGS, or SET CANADIANRATINGS (see following pages for descriptions of each item)

Special Note about Ratings

Some programs are not broadcast with a ratings signal. Therefore, even if you setup V-Chip ratings limits, these programs will not be blocked. Parents are cautioned to preview the contents of these programs or movies.

US V-Chip Ratings

U.S. PARENTAL RATING SYSTEMS

Programs with the following ratings are appropriate for children.

- **TV Y is Appropriate for All Children.**
  Programs are created for very young viewers and should be suitable for all ages, including children ages 2 - 6.
- **TV Y7 is for Older Children.**
  Most parents would find such programs suitable for children 7 and above. These programs may contain some mild fantasy violence or comedic violence, which children should be able to discern from reality.

Programs with the following ratings are designed for the entire audience.

- **TV G stands for General Audience.**
  Most parents would find these programs suitable for all age groups. They contain little or no violence, no strong language, and little or no sexual dialog or situations.
- **TV PG Parental Guidance Suggested.**
  May contain some, but not much, strong language, limited violence, and some suggestive sexual dialog or situations. It is recommended that parents watch these programs first, or with their children.
- **TV 14 Parents Strongly Cautioned.**
  Programs contain some material that may be unsuitable for children under the age of 14 including possible intense violence, sexual situations, strong coarse language, or intensely suggestive dialog. Parents are cautioned against unattended viewing by children under 14.
- **TV MA Mature Audiences Only.**
  These programs are specifically for adults and may be unsuitable for anyone under 17 years of age. TV MAprograms may have extensive V, S, L, or D.

Viewing Guidelines

In addition to the ratings categories explained above, information on specific kinds of content are also supplied with the V-Chip rating. These types of content may also be blocked. The content types are:

- **V/FV** is for VIOLENCE/FANTASY VIOLENCE
- **S** stands for SEXUAL CONTENT
- **L** stands for strong LANGUAGE
- **D** stands for suggestive DIALOG

V-Chip

Setting US V-Chip Ratings

Press the MENU button

▲▼ To V-CHIP

◀▶ To operate (Lock icon will appear)

Press ZERO to access the V-Chip menu

◀▶ To turn V-Chip ON or OFF

▲▼ To move to SET US TVRATINGS

◀▶ To operate

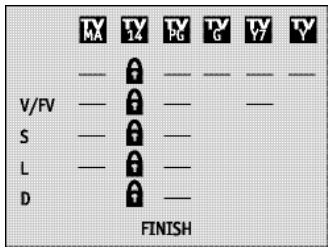
Directions to set US V-Chip Ratings:

Line up the cursor in the column (TVPG, TV G, etc.) with the content row (V/FV, S, etc.) and press the ▲or▼ to move the cursor to the correct location. Press ◀ or ▶ to turn the locking feature on or off. An item is locked if the icon appears instead of a "—".

For example. To block viewing of all TV 14 shows, move the cursor to the top row of that column and add a lock icon. Once you've put a lock on the top row, everything in that column is automatically locked.

▲▼ To the TV 14 Column

◀▶ To turn on the lock



▲▼ To FINISH

◀▶ To save settings and exit

• If you want to change the setup, move the cursor to the top column and change the lock icon to "—" by pressing ◀ or ▶ again. You may then select individual categories to block.

Setting ratings with the V-Chip button

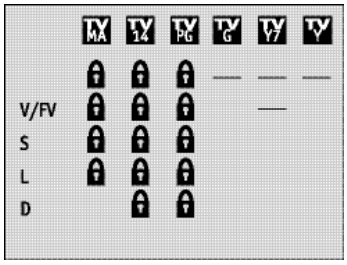
To access Rating information about a certain program, press the V-CHIP button while viewing that program. A display like this will appear:

If you decide you want to block this category of viewing, press "0" while the above screen is visible, and all programs from that category will be blocked.

Example 1:

If you want to set your V-Chip settings to block all programming above TV-PG:

Press ZERO when TV-PG is displayed

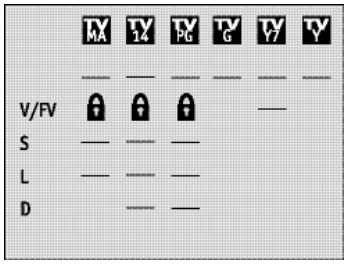


All Programming above TV-PG will be blocked.

Example 2:

If you want to set your V-Chip settings to block all programming above a current setting such as TVPG-V (with violence):

Press ZERO when TV-PG - V is displayed



All Programming above TV-PG- V (with Violence) will be blocked.

• For Children's programming you can block TV-Y and Y7 programs by Pressing “0” when Y is displayed during a program. Programming for audiences other than children’s audiences will not be affected.

V-Chip

Movie Ratings

- **NR - Not Rated.**
  This is a film which has no rating. In many cases these films were imported from countries which do not use the MPAA ratings system. Other NRfilms may be from amateur producers who didn't intend to have their film widely released.
  NR(Not Rated) Programming may contain all types of programming including children's programming, foreign programs, or adult material.

- **G – General Audience.**
  In the opinion of the review board, these films contain nothing in the way of sexual content, violence, or language that would be unsuitable for audiences of any age.
- **PG – Parental Guidance.**
  Parental Guidance means the movie may contain some contents such as mild violence, some brief nudity, and strong language. The contents are not deemed intense.
- **PG-13 – Parents Strongly Cautioned.**
  Parents with children under 13 are cautioned that the content of movies with this rating may include more explicit sexual, language, and violence content than movies rated PG.
- **R - Restricted.**
  These films contain material that is explicit in nature and is not recommended for unsupervised children under the age of 17.
- **NC-17 - No One Under 17.**
  These movies contain content which most parents would feel is too adult for their children to view. Content can consist of strong language, nudity, violence, and suggestive or explicit subject matter.
- **X - No One under 18.**
  Inappropriate material for anyone under 18.

Directions to set Movie (MPAA) Ratings:

Press the MENU button

▲▼ To V-CHIP

◀▶ To operate (Lock icon appears)

Press ZERO to access V-Chip setup options

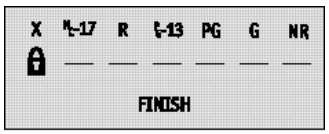
▲▼ To SET MOVIE RATINGS

◀▶ To enter movies menu

For example, to block viewing of X and NC-17 rated from shows:

▲▼ To the X Column

◀▶ To turn on the lock



▲▼ To the NC-17 Column

◀▶ To turn on the lock

▲▼ To FINISH

◀▶ To save settings and exit

Canadian V-Chip Ratings

- **E - Exempt.**
  Exempt programming includes: news, sports, documentaries and other information programming, talk shows, music videos, and variety programming.
- **C – Programming Intended for Children.**
  Violence Guidelines: There will be no realistic scenes of violence. Depictions of aggressive behavior will be infrequent and limited to portrayals that are clearly imaginary, comedic or unrealistic in nature.
- **C8+ – Programming Intended for Children 8 and Over.**
  Violence Guidelines: Any realistic depictions of violence will be infrequent, discreet, of low intensity and will show the consequences of the acts. There will be no offensive language, nudity or sexual content.
- **G – General Audience.**
  Programming will contain little violence and will be sensitive to themes which could affect younger children.
- **PG - Parental Guidance.**
  Programming intended for a general audience, but which may not be suitable for younger children. Parents may consider some content not appropriate for children aged 8-13.
- **14+ - 14 Years and Older.**
  Parents are strongly cautioned to exercise discretion in permitting viewing by pre-teens and early teens. Programming may contain mature themes and scenes of intense violence.
- **18+ - Adult.**
  Material intended for mature audiences only.

Directions to set Canadian V-Chip Ratings:

Press the MENU button

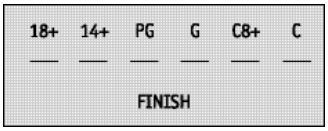
▲▼ To V-CHIP

◀▶ To operate (Lock icon appears)

Press ZERO to access V-Chip setup options

▲▼ To SET CANADIAN RATINGS ENG (for English)

◀▶ To enter ratings menu



For example, to block viewing of programming rated 14+ and 18+ :

▲▼ To the 18+ Column

◀▶ To turn on the lock

▲▼ To the 14+ Column

◀▶ To turn on the lock

▲▼ To FINISH

◀▶ To save settings and exit

- For instructions on “Set Canadian Ratings FRE (in French)”, please see page 31 in the French side of this user’s guide.

V-Chip

Unrated Programs

Notes About Unrated Programs:

Unrated programming refers to any programming which does not contain a rating signal. Programming on television stations which do not broadcast rating signals will be placed in the “Unrated Programming" category.

Examples of Unrated programs:

Emergency Bulletins
Locally Originated Programming
News
Political Programs
Public Service Announcements
Religious Programs
Sports
Weather
Some Commercials

• TV programs or movies that do not have rating signals will be blocked if the Unrated Category is set to BLOCK.

Directions to Block Unrated Programs:

You can block programs that are not rated.

Press the MENU button

▲▼ To V-CHIP

◀▶ To operate (The lock icon appears)

Press ZERO to access V-Chip setup options

▲▼ To UNRATED

◀▶ To VIEW or BLOCK

Press EXIT when done

Set Lock Code

Channel Guard and V-Chip settings are protected by a four-digit Lock Code. Your TV comes pre-set with a Lock Code of "0000". You may change the code to any four-digit number you wish. To change the Lock Code, follow the steps below.

Press the MENU button

▲▼ To SET LOCK CODE

◀▶ To operate

The lock icon 🔒 *appears*

Press ZERO to access the Lock Code

The first digit will be highlighted

◀▶ To select the number

▲▼ To move to the next digit

Continue to follow these directions for all four numbers

▲▼ To FINISH

◀▶ To save settings and exit

Your Lock Code is now set.

NOTES:

- After a power interruption you must reset the Lock Code.
- Write your Lock Code number down and keep it hidden from potential viewers.
- If you forget the Lock Code, a new code may be set using the steps listed above.

Picture Settings

Tint

Tint allows you to adjust the levels of red and green in your TV picture.

Press the MENU button

▲▼ To TINT

▶ To increase the levels of green

◀ To increase the levels of red

▲▼ To move to the next setting

Color

The color function lets you make all the colors in the TV picture appear either more vivid or subtle.

Press the MENU button

▲▼ To COLOR

▶ To make the colors more vivid

◀ To make the colors more subdued

▲▼ To move to the next setting

Picture

Picture allows you to adjust the levels of black and white on the TV screen, giving you a darker or brighter picture overall.

Press the MENU button

▲▼ To PICTURE

▶ To increase the level of contrast

◀ To decrease the level of contrast

▲▼ To move to the next setting

Bright

You can adjust the overall brightness of the TV picture with the Bright control.

Press the MENU button

▲▼ To BRIGHT

▶ To lighten the picture

◀ To darken the picture

▲▼ To move to the next setting

Detail

The Detail feature adjusts the level of fine detail displayed in the picture.

Press the MENU button

▲▼ To DETAIL

▶ To make the picture sharper (more detail)

◀ To make the picture smoother (less detail)

▲▼ To move to the next setting

Noise Muting

This feature inserts a blank blue screen over channels which are not broadcasting or are too weak to be received clearly.

Press the MENU button

▲▼ To NOISE MUTING

◀▶ To turn Noise Muting ON or OFF

• Noise Muting will not work during Auto Tuner Setup or when you operate Channel Summary.

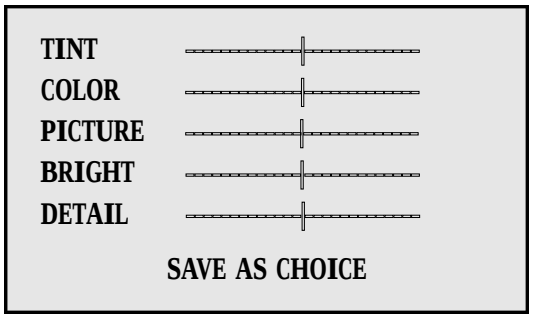
Set Video Status

With Set Video Status, you can save your own set of picture quality adjustments as “Choice” and have access to them at the touch of a button.

Press the MENU button

▲▼ To SET VIDEO STATUS

◀▶ To operate



◀▶ To set the TINT levels

▲▼ To move to the next option

Repeat these steps until all levels are set.

▲▼ To SAVEAS CHOICE

◀▶ To save settings and exit

• You must use SAVEAS CHOICE to exit the Set Video Status menu, otherwise your preferences will not be saved.

• You can access your “Choice” settings at any time by pressing the VIDEO STATUS button on the remote control.

NOTES:

The setting screen will disappear if you do not make any adjustments or move to the next setting in approximately three seconds. Any changes you have made to picture settings up to that point will be stored. You can exit the Picture Settings menu at any time by pressing the EXIT button on the remote control.

Sound Settings

Bass

You can increase or decrease the level of low-frequency sound in the TV's audio with the Bass adjustment.

Press the MENU button

▲▼ To BASS

▶ To increase the bass

◀ To decrease the bass

▲▼ To move to the next setting

Treble

Use Treble to adjust the level of high-frequency sound in your TV's audio.

Press the MENU button

▲▼ To TREBLE

▶ To increase the treble

◀ To decrease the treble

▲▼ To move to the next setting

Balance

Adjust the level of sound between the TV's two speakers with the Balance setting.

Press the MENU button

▲▼ To BALANCE

▶ To shift the balance towards the right speaker

◀ To shift the balance towards the left speaker

▲▼ To move to the next setting

MTS (Multi-Channel Television Sound)

MTS technology allows several audio signals to be broadcast at once, giving you a choice in what you wish to hear with a TV program. In addition to mono or stereo sound, an MTSbroadcast may also include a Second Audio Program (SAP).

Press the MENU button

▲▼ To MTS

◀▶ Select the mode

(The ON AIR arrow tells you if a broadcast is in Stereo and/or contains an SAP).

- Keep the TV in STEREO mode to get the best sound quality. The sound will work in STEREO mode even if a certain broadcast is in MONO sound only.
- Choose the MONO setting to reduce excessive noise on a certain channel or broadcast.
- Selecting SAP will allow you to hear an alternative soundtrack, if one is available.

NOTE:

You can leave the Sound Settings menu at any time by pressing the EXIT button on the remote control.

On/Off Timer

The On/Off timer lets you program your television to turn itself on or off. You can use it as an alarm to wake up, to help you remember important programs, or as a decoy when you're not home.

Press the MENU button

▲▼ To ON/OFF TIMER

◀▶ To operate (begins with ON TIME)

◀▶ To set the hour (AM/PM) you want the TV to turn on

▼ To move to minutes

◀▶ To set the minutes

▼ To accept ON TIME and move to OFF TIME (the time the TV will turn off). Set the OFF TIME the same way as ONTIME

▼ To accept OFFTIME and move to CHANNEL

◀▶ To select channel

▼ To move to MODE

◀▶ Choose ONCE or EVERYDAY

▼ To ON/OFFTIMER

◀▶ Choose YES to accept the timer setting, choose NOif you don't wish to accept

▼ To FINISH

◀▶ To save settings

On/Off Timer Note for PIP (D502 models) only.

If the television is on when a timed event is about to start a Timer Preview window will appear. The Timer Preview window will appear in the lower right corner of the screen seven seconds before the timer is programmed to begin. When the timer activates, the Preview picture will become the main picture.

NOTES:

- The On/Off time cannot be set to locked or guarded channels.
- In order for the On/Off timer to work, the clock must be set.
- After a power interruption, the Timer settings must be reset.

General Items

TV Speaker

If your TV is connected to a stereo system, you can turn off the TV speakers and listen to the audio through your stereo.

Press the MENU button

▲▼ To TV SPEAKER

TV SPEAKER	ON	OFF

◀▶ To turn the TV's speakers ONor OFF

EXIT when finished

- Before you turn the TV Speaker setting from OFF to ON, **make sure that the TV volume level is low!** If the TV volume is set too high, the sound level will be extremely loud.
- After a power interruption, the TV Speaker settings will return to “ON”.

NOTE:

• External Speakers: When using external speakers or amplifiers, shut off the TV Speakers (see ‘TV Speaker’) above.

V2 Component-In

Get the best quality video from your DVD player by using this setting and the DVD inputs at the rear of the television. Set either to YES for component input (for DVD) or to NO for composite video input (for a regular VCR).

Press the MENU button

▲▼ To V2 COMPONENT-IN

◀▶ To turn the input ON (YES) or OFF (NO)

EXIT when finished

- This option should be used with DVD players only. For information on connecting VCR's see page 11. For more information on connecting a DVD player, see page 14.

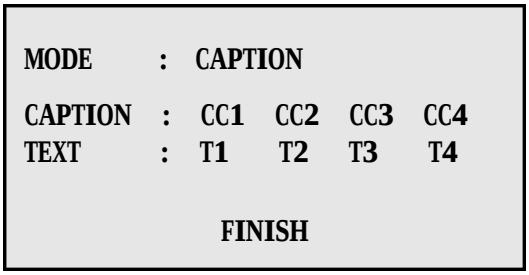
Closed Caption

Many broadcasts now include an onscreen display of dialog called Closed Captions. Some broadcasts may also include displays of additional information in text form. Your television can access and display this information using the Closed Caption feature. To activate the Closed Caption feature, follow the steps below.

Press the MENU button

▲▼ To CLOSED CAPTION

◀▶ To operate



◀▶ To select CAPTION (for Closed Captions), TEXT (for text display), or OFF (for no display)

▲▼ To move to CAPTION or TEXT

◀▶ To select a caption (CC1 to CC4) or text channel (T1 to T4)

▲▼ To accept that selection and move to FINISH

◀▶ To save settings and exit

NOTES:

- Closed Caption subtitles are usually found on closed caption channel CC1. Some programs may include additional text information which is usually found on text channel T1. The other channels are available for future use.
- Closed captioning may not work correctly if the signal being received is weak or if you are playing a video tape.
- Most broadcasts containing Closed Captioning will display a notice at the start of the program.

Button Functions

Menu

The MENU button allows you to access JVC's onscreen menu system. Press MENU to activate the onscreen menu system.

• See individual topics (like "Sound Settings) for specific information on using menus.

Exit and PIP Off

Press the EXIT button to leave a menu screen. On the RM-C301G this button is also labeled "PIP OFF". Press EXIT/PIP OFF to turn off the Picture-in-Picture function (please see page 44 for more information on the PIP feature).

• **PIPis available on series D502 models only.**

Display

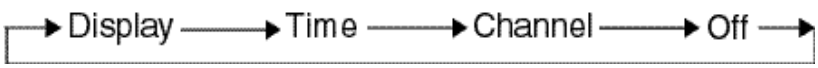
The Display screen shows the current status of timers and inputs.

Press the DISPLAY button

07	
NOW	12:20 PM
SLEEP TIMER	OFF
ON/OFF TIMER	EVERYDAY
ON TIME	7:00 PM
OFF TIME	10:00 PM

The screen above shows the following information:

- The current channel or AV input (Channel 07)
- The current time (12:20 pm)
- Sleep Timer status/minutes remaining (The Sleep Timer is off)
- On/Off Timer status (Set to turn on everyday at 7:00 PM, off at 10:00 PM)
- Each Press of the DISPLAY button changes the display mode:



Display - Full screen shown above

Time - Shows the current time only

Channel - Shows the current channel

Off - Turns Display off

• You may also turn off the Display at any step by pressing EXIT.

NOTE:

• Please note that if the Clock, Sleep Timer or On/Off Timer are not set, the Display screen will show: "Clock Not Set", "Sleep Timer Off", and "On/Off Timer Off" respectively.

Video Status

The VIDEO STATUS button gives you a choice of three TV picture display settings, including a display of your own preferences.

Standard - Resets the picture display to the factory settings.

Choice - Displays the setting levels you specified on the "Set Video Status" Menu (see page 35).

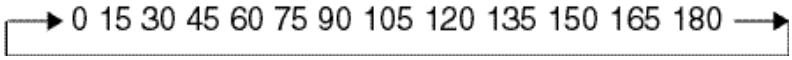
Theater - Gives a rich, film-like look to video.

Press the VIDEO STATUS button

Sleep Timer

The Sleep Timer can turn the TV off for you after you fall asleep. Program it to work in intervals of 15 minutes, for a total time of up to 180 minutes.

Press the SLEEP TIMER button



Sleep Timer Message

20 seconds before the automatic shutoff, this message will appear:

You then have 20 seconds to press the Sleep Timer button to delay the shutoff for another 15 minutes.

Hyper Surround

Creates a deep, three-dimensional sound effect by channeling the audio through the TV's front-firing speakers. Press the HYPER SURROUND button to turn the effect on or off.

Muting

The MUTING button instantly turns the volume down completely when you press it.Press MUTING and the volume level will instantly go to zero. To restore the volume to its previous level, press MUTING again.

Button Functions

BBE

BBE high definition audio adds natural, clear and extraordinary sound quality to any program. Turn BBE On or Off using the BBE button.

100+ Button

Use the 100+ button to directly access channels above Channel 99. For example to move to channel 124, press100+, 2 (two), 4 (four).

Return+

The RETURN+ button has two functions:

Return - Returns to the channel viewed just before the channel currently onscreen.

Return+ - Lets you program a specific channel to return to while scanning through the channels using the CH+ and CH- buttons.

RETURN+ and hold for three seconds

The channel currently active has been programmed as your Return+ channel. Now scan through the channels using the CHANNEL+/- buttons

RETURN+

You will return to your programmed channel.

• To cancel your Return+ channel, press and hold the RETURN+button for three seconds. The message "RETURN CHANNELCANCELLED!" will appear.
• Return+ works only with the CHANNEL+/- buttons. Pressing any number key will cancel Return+.
• Return+ does not affect the PIP channel (D502 models only).

Input

Selects the signal input source for the television: TV (for Antenna or Cable) or Video-1, 2 or 3 for video devices like VCR's, DVD players, or camcorders.

INPUT

NOTE:

• BBE is a registered trademark of BBESound, Inc. For U.S., licensed from BBE Sound, Inc. under USP 4638258, 4482866 and 5510572. For Canada, licensed from BBESound, Inc. BBE is a registered trademark of BBE Sound, Inc.

Button Functions

VCR Buttons

You can use this remote control to operate the basic functions of your VCR. These functions include: play, record, rewind, fast-forward, stop, pause, channel scan, TV/VCR, power on, and power off.

Move the selector switch to **VCR** to operate.

• The remote is preset with the code 000 to control JVC-brand VCR's. For any other manufacturer's brand VCR, please see the code chart and instructions on page 19.

DVD Buttons

You can also use this remote control to operate the basic functions of your DVD player. These functions include: play, rewind, fast-forward, stop, still/pause, previous/next, tray open/close, power on, and power off.

Move the selector switch to **DVD** to operate.

• The remote is preset with the code 000 to control JVC-brand DVD players. For any other manufacturer's brand DVD player, please see the code chart and instructions on page 20.

TV/CATV Switch

Use either the television's own tuner or a cable box to select channels. Set this switch to TV to operate the television's built-in tuner. Move the switch to CATV to operate a cable box.

• See page 18 for information on programming your remote for cable box operation.

VCR/DVD Switch

You can control a VCRor DVDplayer with the buttons on the lower part of the remote control. Use the VCR/DVD selector switch to choose either VCRor DVD operation.

• See pages 19 and 20 for information on programming your remote with VCR and DVD operating codes.

Light

Your remote control includes illuminated buttons for key features like CHANNEL +/- and VOLUME +/-. Press the LIGHT button to turn the illumination on.

Button Functions - PIP

PIP displays two separate pictures on screen. Your television has 2-Tuner PIP, meaning you can view pictures from two different channels simultaneously. Aspecial set of PIPcontrol buttons are located on the upper part of the remote control. Descriptions of each button appear on this page.

The PIP feature is available on series D502 models only.

Cable Box Note

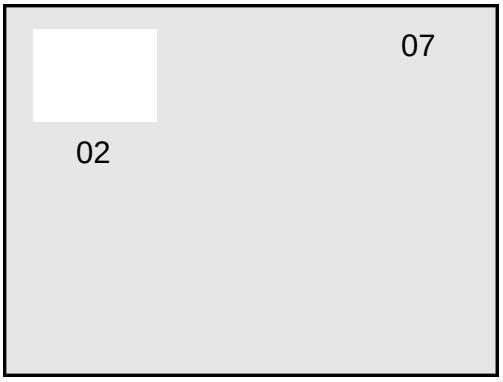
The 2-Tuner PIPfunction may not operate when used with certain cable boxes. This is because while some models of cable box may receive up to 181 channels, they may only send the signal from one channel to your television (please also see diagram on page 11). For the PIPtuner to operate correctly, it must have access to all available channels. Since the television is receiving the signal of only one channel from the cable box, it is impossible for the 2-Tuner PIPto display a second, different channel.

Because there are many different models of cable boxes in use today, if you are having problems operating your PIP feature with your cable box, we recommend you contact your local cable company for connection advice.

On/Move

Turn PIP on by pressing the ON/MOVE button.

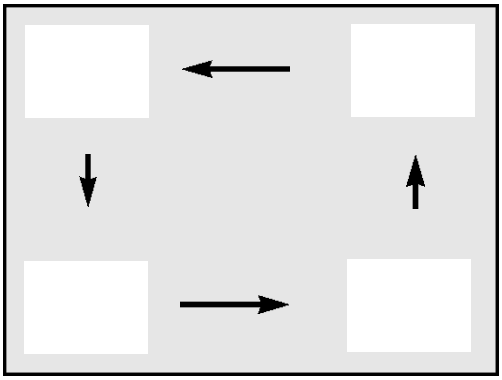
(PIP) ON/MOVE



EXIT/PIP OFF to turn PIP off

Once PIP is turned on, you can move the PIP window to any of the TV's main picture's four corners with the ON/MOVE button.

ON/MOVE



• Each press of ON/MOVE will shift the PIP window to a different corner.

Button Functions - PIP

Freeze

Use the FREEZE button to lock a single, still image onto the PIP window.

- If PIP is off when FREEZE is pressed, a snapshot of the main screen is taken and placed in the PIPwindow.
- If PIPis on when FREEZE is pressed, the image in the window when the button was pressed is held.

Swap

You can exchange the channel displayed on the main screen for the one shown in the PIP window by pressing SWAP.

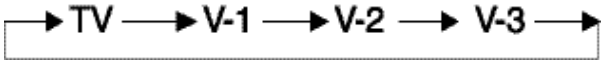
Channel +/- for PIP

Like the main CHANNEL +/- buttons, CHANNEL +/- for PIP lets you scan through the channels in the PIP window.

- Direct channel selection with the 10 key pad for PIPis not possible.

Source

You can select the signal source for the PIP window image.



- If the PIP does not have a signal, the window will be blue.
- If you connect a DVDto Video-2 the PIP window will be blue.

NOTES:

- The PIP window is $^1/_9$ the size of the full screen.
- PIPwill not display blocked channels or programs. A blue screen will display instead.

Troubleshooting

PROBLEMS	CHECK
There is no power	• See if the power cord became unplugged. • Check for a blown fuse or circuit breaker or a power outage.
There is no picture or sound	• The antenna could be disconnected. • The input mode could be set improperly. See page 42. • The tuner (Auto Tuner Setup) could be set improperly. See page 22. • The TV station may be having difficulties. Check to see if other stations are working.
Remote control is not operating properly or at all	• Check to see that the batteries are still working and properly installed. • Make sure the remote has a clear sight path to the TV. • Check that the TV/CATV switch is in the proper position. • You may be too far from the TV. You must be within 23 feet (7 meters).
You cannot select a certain channel	• Make sure the channels have been programmed. See "Channel Summary", page 25. • Check to see if the channel is locked. See "Channel Summary - Lock" page 25.
The power turns off by itself	• Make sure the set did not become unplugged. • Perhaps the On/Off Timer is set. See page 37. • Check to see if the Sleep Timer was set. See page 41.
The clock is wrong	• The power was interrupted and the clock was not reset. See page 23.
The On Timer is blinking	• There is a problem with the TV. Unplug the set and call for service.
The color quality is poor	• Tint and Color may be improperly adjusted. See page 34. • The Video Status mode may be turned to the wrong setting. See page 35.
There are lines across the picture	• There could be interference from another electrical appliance, such as a computer, another TV or VCR. Move any such appliances further away from the TV.
The picture is spotted	• There could be interference from a high-wattage appliance, like a hairdryer or vacuum, operating nearby. Move the antenna away from the appliance or change to a coaxial cable connection which is less prone to interference.
There are double pictures (ghosts)	• A building or passing airplane can reflect the original signal and produce a second, slightly delayed one. Adjust your antenna position.
Picture is snowy (image noise)	• Your antenna may be damaged, disconnected or turned. Check the antenna connection. If the antenna is damaged, replace it.
Screen is 80% black	• The Closed Caption Text mode is on. Turn it off in the Closed Caption Menu, page 39.
Stereo or bilingual programs can't be heard	• Make sure the MTS settings are correct. See "MTS" on page 36.
There is no sound from the TV's speakers	• The TV Speaker option may be turned off. See page 38.
Static electricity	• It is normal to feel static electricity if you brush or touch the screen.
You hear occasional crackling sounds	• It is normal for the TV to make crackling sounds when first turned on or off. Unless the sound or picture become abnormal, this is fine.

JVC Warranty

For Canadian model televisions, see the separate sheet for Canadian Warranty information.

JVC COMPANYOF AMERICA warrants this product and all parts thereof, except as set forth below ONLYTO THE ORIGINAL PURCHASER AT RETAIL to be FREE FROM DEFECTIVE MATERIALS AND WORKMANSHIP from the date of original retail purchase for the period shown below (the "Warranty Period") (PICTURE TUBE is covered for Two (2) years.)

Parts	Labor
1 YEAR	1 YEAR

THIS LIMITED WARRANTY IS VALID ONLY IN THE FIFTY (50) UNITED STATES,THE DISTRICT OF COLUMBIA AND COMMONWEALTH OF PUERTO RICO.

WHAT WE WILL DO:
If this product is found to be defective within the warranty period,JVC will repair or replace defective parts at no charge to the original owner. Such repair and replacement services shall be rendered by JVC during regular business hours at JVC authorized service centers. Parts used for replacement are warranted only for the remainder of this Warranty Period. All products and parts thereof may be brought to a JVC authorized service center on a carry-in basis. Televisions with a screen size of 25 inches and larger may be covered on an in-home basis where such service is available.

WHAT YOU MUST DO FOR WARRANTY SERVICE:
To determine if in-home service is available in your area, either contact the selling dealer (retailer) or call 1-800-537-5722 to locate the nearest JVC authorized service center. Service locations can also be obtained from our website http://www.jvcservice.com. In-home service, if available, will require clear access to the Television by the service representatives. If in-home service is not available, carry in service will be provided.

If service is not locally available, box the product carefully, preferably in its original carton, and ship, insured, with a copy of your bill of sale plus a letter of explanation of the problem to the nearest JVC Factory Service Center, the name and location which will be given to you by the toll free number.

If you have any questions concerning your JVCProduct, please contact our Customer Relations Department.

WHAT IS NOT COVERED:
This limited warranty provided by JVC does not cover:
1) Products which have been subject to abuse, accident,alteration,modification, tampering, negligence, misuse, faulty installation,lack of reasonable care, or if repaired or serviced by anyone other than a service facility authorized by JVC to render such service, or if affixed to any attachment not provided with the products,or if the model or serial number has been altered, tampered with,defaced or removed;
2) Initial installation,installation and removal from "built-in" entertainment centers and other mounting systems;
3) Operational adjustments covered in the Owner's Manual, normal maintenance, video and audio head cleaning;
4) Damage that occurs in shipment,due to an act of God,and cosmetic damage;
5) Signal reception problems and failures due to line power surge;
6) Video Pick-up Tubes/CCD Image Sensor, Cartridge, Stylus (Needle) are covered for 90 days from the date of purchase;

Warranty

7) Accessories;
8) Batteries (except that Rechargeable Batteries are covered for 90 days from date of purchase.)

There are no express warranties except as listed above.

THE DURATION OF ANY IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILTY, IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY HEREIN.

JVC SHALL NOT BE LIABLE FOR THE LOSS OF USE OF THE PRODUCT, INCONVENIENCE, OR ANY OTHER DAMAGES,WHETHER DIRECT, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, WITHOUT LIMITATION, DAMAGE TO TAPES, RECORDS OR DISCS) RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY, ALL EXPRESS AND IMPLIED WARRANTIES,INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, ARE LIMITED TO THE WARRANTY PERIOD SET FORTH ABOVE.

Some states do not allow the exclusion of incidental or consequential damages or limitations on how long the warranty lasts, so these exclusions or limitations may not apply to you.This warranty gives you specific legal rights and you may also have other rights which vary state to state.

JVC COMPANYOF AMERICA 1700 Valley Road
DIVISION OF JVC AMERICAS CORP. Wayne, New Jersey 07470

http://www.jvcservice.com

REFURBISHED PRODUCTS CARRY A SEPARATE WARRANTY. THIS WARRANTY DOES NOT APPLY FOR DETAILS OF REFURBISHED PRODUCT WARRANTY. PLEASE REFER TO THE REFURBISHED PRODUCT WARRANTY INFORMATION PACKAGED WITH EACH REFURBISHED PRODUCT.

For customer use:
Enter below the Model No. and Serial No.which is located either on the rear, bottom or side of the cabinet.
Retain this information for future reference.

Model No.: _____ **Serial No.:** _____
Purchase Date: _____ **Name Of Dealer:** _____

Authorized Service Centers

QUALITY JVC SERVICE

HOW TO LOCATE YOUR JVC SERVICE CENTER

TOLL FREE: 1 (800) 537-5722
http://www.jvc.com

Dear Customer,

In order to receive the most satisfaction from your purchase, please read the instruction booklet before operating the unit. In the event that repairs are necessary, please call 1 (800) 537-5722 for your nearest authorized servicer or visit our website at **www.JVC.com**

Remember to retain your Bill of Sale for Warranty Service.

Do not service the television yourself

Caution

To prevent electrical shock, do not open the cabinet. There are no user serviceable parts inside. Please refer to qualified service personnel for repairs.

Accessories

To purchase accessories for your JVC product, please call toll free: 1 (800) 882-2345 or on the web at **www.JVC.com**

For service in Canada

To locate your local JVC service center or dealer in Canada please call:

In Eastern Canada:	In Western Canada:	En Français (Montréal):
1 (416) 293-1311	1 (604) 270-1311	1 (514) 871-1311

Or visit us on the web at **www.JVC.ca**

Search Codes

Cable/Satellite Search Codes Function:

1) Slide the first 2-Way Mode Selector switch to CATV.
2) Press the TV POWER and RETURN+ buttons. Hold for at least three seconds and release.
3) Press TV POWER, see if the CATV or Satellite box responds.
4) If there was a response, press RETURN+. The operating codes are now set. If there was no response, repeat Step 3. If you repeat Step 3 a total of 52 times without a response, use the remote control which came with the equipment.
5) Press RETURN+ to exit.

VCR Search Codes Function:

1) Slide the first 2-way selector switch to “TV” and the other 2-way selector switch to “VCR”.
2) Press the VCR POWER and RETURN+ buttons. Hold for at least three seconds and release.
3) Press VCR POWER, see if the VCR responds.
4) If there was a response, press RETURN+. The operating codes are now set. If there was no response, repeat Step 3. If you repeat Step 3 a total of 80 times without a response, use the manufacturers remote control which came with the VCR.
5) Press RETURN+ to exit.

DVD Player Search Codes Function:

1) Slide the first 2-way selector switch to “TV” and the other 2-way selector switch to “DVD”.
2) Press the DVD POWER and RETURN+ buttons. Hold for at least three seconds and release.
3) Press DVD POWER, see if the DVDplayer responds.
4) If there was a response, press RETURN+. The operating codes are now set. If there was no response, repeat Step 3. If you repeat Step 3 a total of 30 times without a response, use the manufacturers remote control which came with the DVD player.
5) Press RETURN+ to exit.

Specifications

MODEL	AV-27D502	AV-32D202 AV-32D302	AV-32D502	AV-36D202 AV-36D302	AV-36D502
Reception Format	NTSC, BTSC System (Multi-Channel Sound)				
Reception Range	VHF 2 to 13, UHF 14 to 69 Sub Mid, Mid, Super, Hyper and Ultra bands (181 channel frequency synthesizer system)				
Power Source	AC 120V, 60Hz				
Power Consumption	123W	128W	133W	130W	133W
Screen Size	27 inch / 68 cm measured diagonally full square	32 inch / 80 cm measured diagonally full square		36 inch / 90 cm measured diagonally full square	
Audio Output	5W + 5W	4W + 4W	5W + 5W	4W + 4W	5W + 5W
Speakers	2 x 4 3/4 / 5x12 cm oval x 2				
Antenna Terminal	75 ohms (VHF/UHF) (F-type connector)				
External Input Jacks	Video: 1 Vp-p, 75 ohms Audio: 500mVrms (-4dBs) high impediance				
S-Video Input Jack	Y: 1Vp-p positive, 75 ohms (negative sync provided) C: 0.286 Vp-p (burst signal), 75 ohms				
Component Input Jacks	Y: 1Vp-p positive, 75 ohms (negative sync provided) Pb/Pr: 0.7 Vp-p, 75 ohms				
Audio Output Jacks (VARI)	More than 0 to 1550 mVrms (+6 dBs)				
AV Compu Link EX Jack	3.5 mm mini jack x 1				
Dimensions (in) WxHxD (cm)	29 5/8 x 23 1/4 x 19 1/2 75.2 x 59.1 x 49.4	33 7/8 x 27 x 21 5/8 85.9 x 68.4 x 54.8		37 7/8 x 30 1/2 x 24 1/2 96.2 x 77.3 x 62.1	
Weight (lbs / kg)	71.3 / 32.4	114.4 / 52.0		149.6 / 68.0	
Accessories	Remote control unit x 1 / AA batteries x 2				

Specifications subject to change without notice.

JVC COMPANY OF AMERICA
Division of JVC Americas Corp.
1700 Valley Road
Wayne, New Jersey, 07470

JVC CANADA, INC.
21 Finchdene Square
Scarborough, Ontario
Canada, M1X 1A7

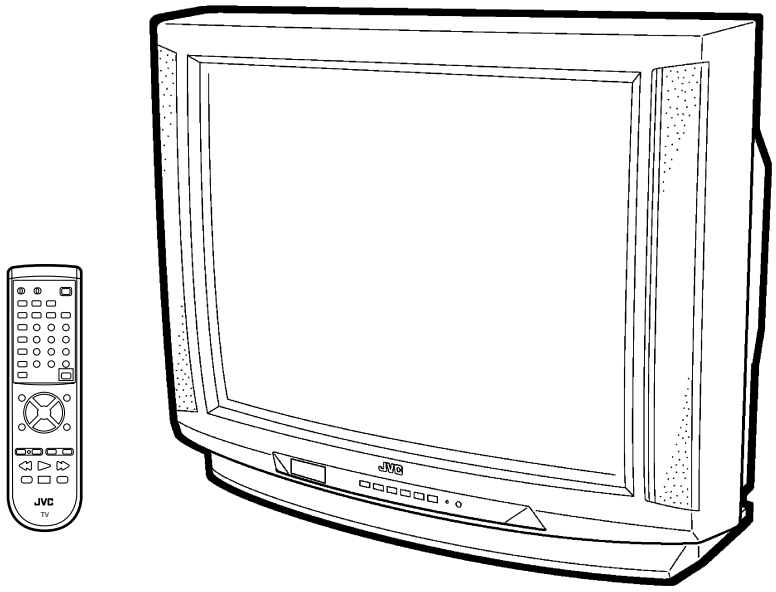
JVC

SERVICE MANUAL

COLOR TELEVISION

BASIC CHASSIS
GC

AV-27D502 /AR
AV-27D502 /AS



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- ■ SERVICE ADJUSTMENTS 12
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- ■ PARTS LIST 31

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No. 51797C
Dec. 2001

SPECIFICATIONS

Items	Contents
Dimensions (W × H × D)	29-5/8" × 23-1/4" × 19-1/2" / 75.2cm × 59.1cm × 49.4cm
Mass	71.3 lbs/32.4kg
TV RF System	CCIR(M)
Color Sound System	NTSC, BTSC System (Multi Channel Sound)
TV Receiving Channels and Frequency	
VL Band	(02~06) 54MHz~88MHz
VH Band	(07~13) 174MHz~216MHz
UHF Band	(14~69) 470MHz~806MHz
CATV Receiving Channels and Frequency	
Low Band	(02~06, A-8) by (02~06&01)
High Band	(07~13) by (07~13)
Mid Band	(A~1) by (14~22)
Super Band	(J~W) by (23~36) (54MHz~804MHz)
Hyper Band	(W+1~W+28) by (37~64)
Ultra Band	(W+29~W+84) by (65~125)
Sub Mid Band	(A8, A4~A1) by (01, 96~99)
TV/CATV Total Channel	180 Channels
Intermediate Frequency	
Video IF Carrier	45.75MHz
Sound IF Carrier	41.25MHz (4.5MHz)
Color Sub Carrier	3.58MHz
Power Input	120V AC, 60Hz
Power Consumption	123W
Picture Tube	27" (68cm) Measured Diagonally
High Voltage	29kV±1.3kV (at zero beam current)
Speaker	2" × 4-3/4" / 5 × 12cm Oval type × 2
Audio Power Output	5W × 2
Video / Audio Input (1 / 2 / 3)	Video(1,3) : 1Vp-p, 75Ω (RCA pin jack) Audio(1,2,3) : 500mVrms (-4dBs), High Impedance (RCA pin jack) S-Video (Input 1 / 2 Over) Y : 1Vp-p Positive (negative sync provided, when terminated with 75Ω) C : 0.286Vp-p (burst signal, when terminated with 75Ω) Component Input (Input 2) Y : 1Vp-p positive (negative sync provided, when terminated with 75Ω) P_B/P_R : 0.7Vp-p 75 Ω
Audio Output (Variable)	Variable : More then 0~1550mVrms (+6dBs) Low impedance (400Hz when modulated 100%) (RCA pin jack)
AV Compu link EX Input	3.5mm mini jack
Antenna terminal	75Ω(VHF/UHF) Terminal, F-Type Connector
Remote Control Unit	RM-C301G-2A (AA/R6/UM-3 battery × 2)

Design & specifications are subject to change without notice.

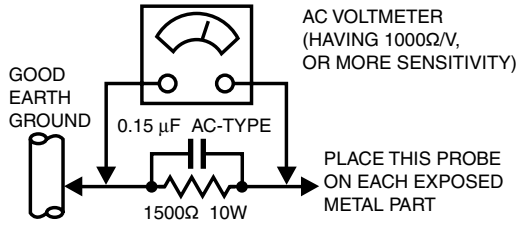
SAFETY PRECAUTIONS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (⚠) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
4. **Use isolation transformer when hot chassis.**
   The chassis and any sub-chassis contained in some products are connected to one side of the AC power line. An isolation transformer of adequate capacity should be inserted between the product and the AC power supply point while performing any service on some products when the HOT chassis is exposed.
5. **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**
   Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED(NEUTRAL) : (⏚) side GND and EARTH : (⏚) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time with a measuring apparatus (oscilloscope etc.).
   If above note will not be kept, a fuse or any parts will be broken.
6. If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
7. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
8. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.
9. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.
10. **Isolation Check**
    (Safety for Electrical Shock Hazard)
    After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

(1) **Dielectric Strength Test**
The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 1100V AC (r.m.s.) for a period of one second.
(. . . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)
This method of test requires a test equipment not generally found in the service trade.

(2) **Leakage Current Check**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

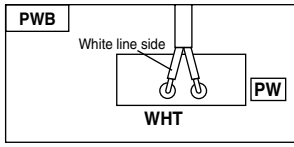
● **Alternate Check Method**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



11. **High voltage hold down circuit check.**
    After repair of the high voltage hold down circuit, this circuit shall be checked to operate correctly.
    See item **"How to check the high voltage hold down circuit".**

This mark shows a fast operating fuse, the letters indicated below show the rating.

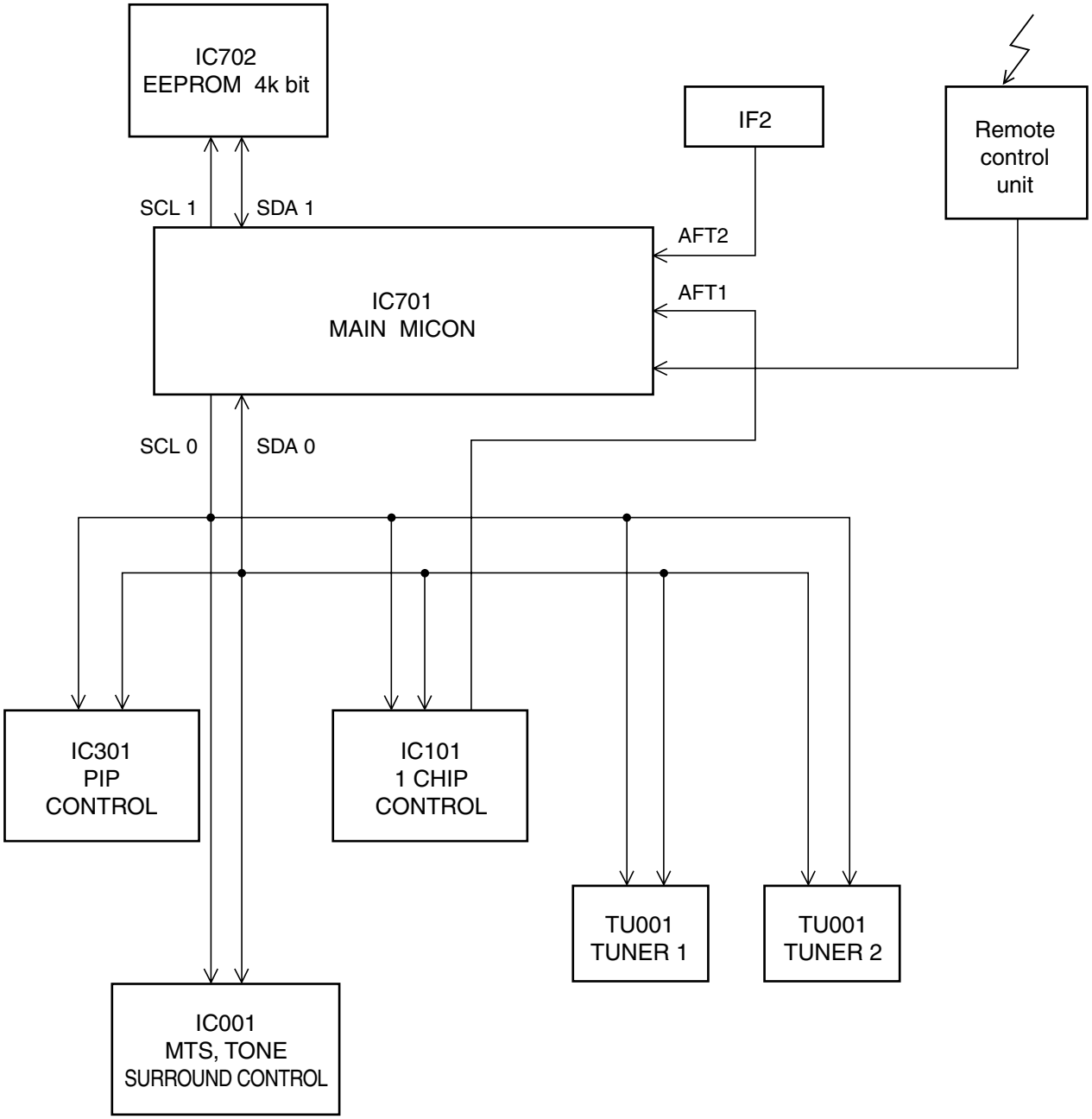
POWER CORD
REPLACEMENT WARNING
Connecting the white line side of power cord to "WHT" character side.



FEATURES

- Full-square CRT (cathode ray tube) reproduces fine textured picture in every detail.
- I^2C bus control utilizes single chip ICs.
- Built in Twin Tuner system.
- Built-in HYPER-SURROUND system.
- Built-in BBE.
- Adoption of the Picture-In-Picture (PIP) function.
- 3 LINE DIGITAL COMB FILTER circuit improved picture quality.
- Component input terminal for taking best advantage of Component Video Signal.
- Audio Video input terminal. (S-input ×2, V-input ×2)
- Variable audio output terminal.
- Closed-caption broadcasts can be viewed.
- With AV COMPU LINK EX terminal.

■ SYSTEM BLOCK DIAGRAM

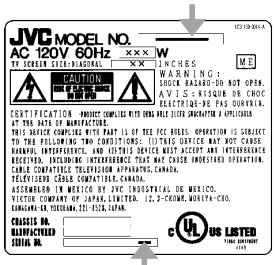
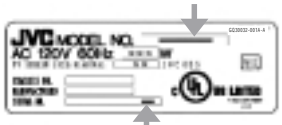


MAIN DIFFERENCE LIST

⚠	Model / Part name	AV-27D502/AR	AV-27D502/AS
	MAIN PWB	SGC-1002A-M2	SGC-1001A-M2
	CRT SOCKET PWB	SGC-3002A-M2	SGC-3001A-M2
⚠	PICTURE TUBE	A68ADT25X01	A68QDN891X001

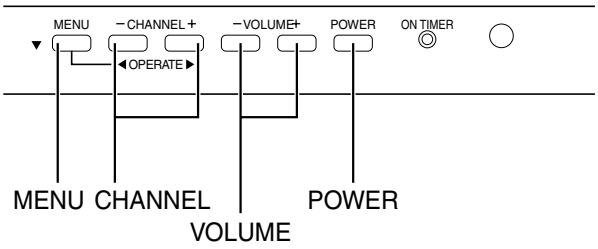
HOW TO IDENTIFY MODELS

The difference between **AV-27D502/AR** and **AV-27D502/AS** is in the PICTURE TUBE.
As the result of the difference in **PICTURE TUBE**, the **MAIN PWB** also differ.

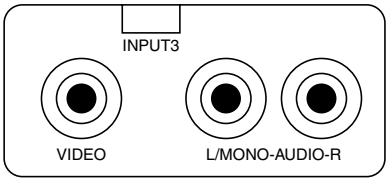
⚠	Model / Part name	AV-27D502/AR	AV-27D502/AS
⚠	RATING LABEL	LC31139-001A-A	GQ30032-001A-A
		INDICATED AV-27D502  INDICATED **"AR"**	INDICATED AV-27D502  INDICATED **"AS"**

FUNCTIONS

■ FRONT PANEL

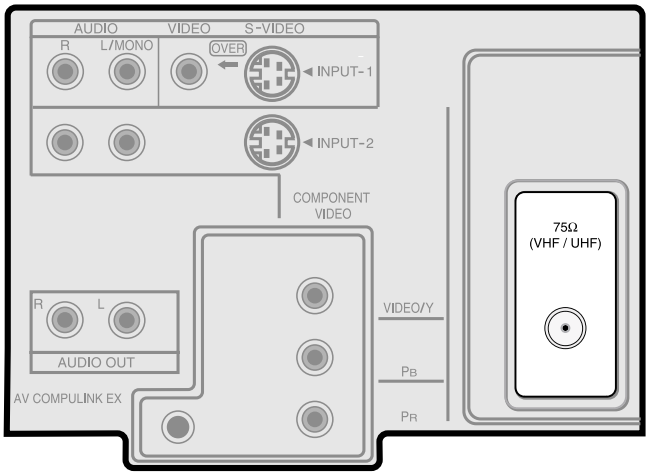


■ FRONT PANEL DOOR OPENED

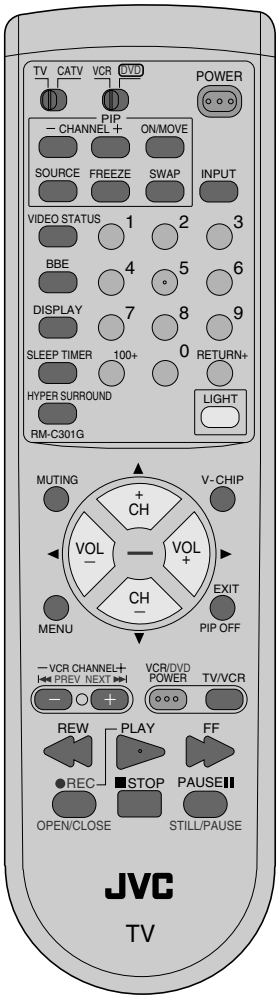


INPUT3 VIDEO/AUDIO TERMINAL

■ REAR PANEL



■ REMOTE CONTROL UNIT (RM-C301G-2A)



SPECIFIC SERVICE INSTRUCTIONS

DISASSEMBLY PROCEDURE

REMOVING THE REAR COVER

1. Unplug the power supply cord.
2. Remove the 12 screws marked Ⓐ as shown in Fig.1.
3. Withdraw the REAR COVER toward you.

[CAUTION]

- When reinstalling the rear cover, carefully push it inward after inserting the MAIN PWB into the rear cover groove.

REMOVING THE CHASSIS

- After removing the rear cover.

1. Slightly raise the both sides of the chassis by hand and remove the 3 claws marked Ⓑ under the chassis from the front cabinet as shown in Fig.1.
2. Withdraw the chassis backward along the rail in the arrow direction marked Ⓒ as shown in Fig.1.

   (If necessary, take off the wire clamp, connector's etc.)

   * When conducting a check with power supplied, be sure to confirm that the CRT earth wire is connected to the CRT SOCKET PWB and the MAIN PWB.

REMOVING THE TERMINAL BOARD

- After removing the rear cover.

1. Remove the 4 screws marked Ⓓ as shown in Fig.1.
2. When you pull out the TERMINAL BOARD in the direction of arrow marked Ⓔ as shown in Fig.1, it can be removed.

REMOVING THE FRONT CONTROL AND FRONT AV INPUT PW BOARDS

- After removing the rear cover and chassis.

1. Remove the 3 screws marked Ⓕ and the 2 screws marked Ⓖ as shown in Fig.1.
2. Then remove the FRONT CONTROL PWB and FRONT AV INPUT PWB.

   (If necessary, take off the wire, connector's etc.)

REMOVING THE SPEAKER

- After removing the rear cover.

1. Remove the 4 screws marked Ⓗ as shown in Fig.1.
2. Withdraw the speaker backward.
3. Follow the same steps when removing the other hand speaker.

CHECKING THE MAIN PW BOARD

1. To check the back side of the MAIN PW Board.
   1) Pull out the chassis. (Refer to REMOVING THE CHASSIS).
   2) Erect the chassis vertically so that you can easily check the back side of the MAIN PW Board.

[CAUTION]

- When erecting the chassis, be careful so that there will be no contacting with other PW Board.
- Before turning on power, make sure that the CRT earth wire and other connectors are properly connected.

WIRE CLAMPING AND CABLE TYING

1. Be sure clamp the wire.
2. Never remove the cable tie used for tying the wires together. Should it be inadvertently removed, be sure to tie the wires with a new cable tie.

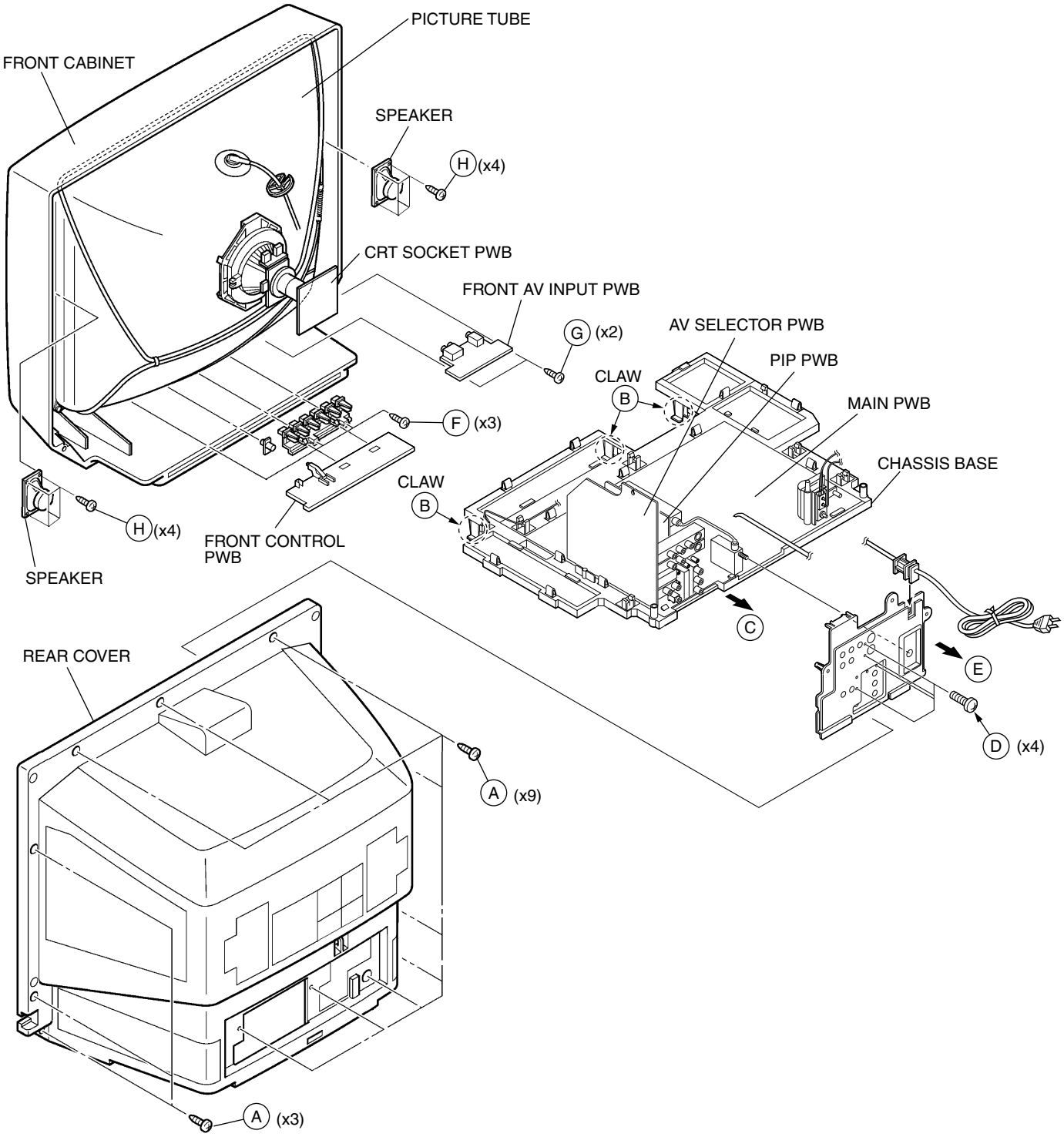

PICTURE TUBE
FRONT CABINET
SPEAKER
H (x4)
CRT SOCKET PWB
FRONT AV INPUT PWB
G (x2)
AV SELECTOR PWB
PIP PWB
CLAW
B
MAIN PWB
F (x3)
CHASSIS BASE
CLAW
B
H (x4)
FRONT CONTROL PWB
SPEAKER
C
E
D (x4)
REAR COVER
A (x9)
A (x3)

Fig.1

MEMORY IC REPLACEMENT

1. Memory IC

This model use a memory IC.
This memory IC stores data for proper operation of the video and deflection circuits.
When replacing, be sure to use an IC containing this (initial value) data.

2. Memory IC replacement procedure

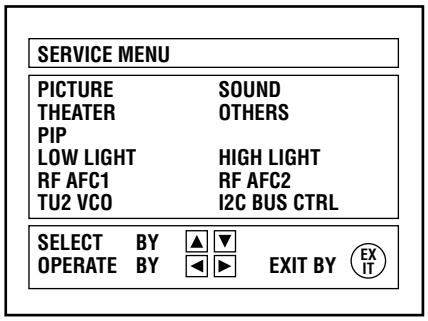
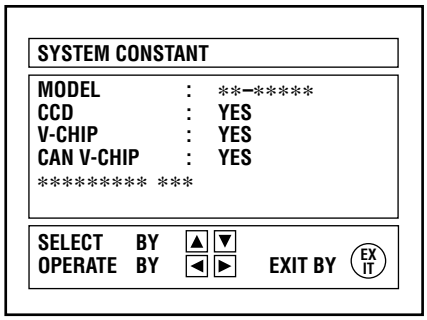
Procedure	Screen display
(1) Power off Switch off the power and disconnect the power cord from the outlet.	
(2) Replace the memory IC Initial value must be entered into the new IC.	
(3) Power on Connect the power cord to the outlet and switch on the power.	
(4) System constant check and setting 1) Press **SLEEP TIMER** key and, while the indication of "**SLEEP TIMER 0 MIN.**" is being displayed, press **DISPLAY** key and **VIDEO STATUS** key on the remote control unit simultaneously. 2) The SERVICE MENU screen of Fig.1 is displayed. 3) While the SERVICE MENU is displayed, again simultaneously press the DISPLAY and VIDEO STATUS keys to display the Fig.2 SYSTEM CONSTANT screen. 4) Refer to the SYSTEM CONSTANT table and check the setting items. Where these differ, select the setting item with the MENU UP/DOWN key and adjust the setting with the MENU LEFT/RIGHT keys. (The letters of the selected item are displayed in yellow.) 5) After adjusting, release the MENU LEFT/RIGHT key to store the setting value. 6) Press the EXIT key twice to return the normal screen.	 **Fig.1**  **Fig.2**
(5) Receive channel setting Refer to the OPERATING INSTRUCTIONS(USER'S GUIDE) and set the receive channels (Channels Preset) as described.	
(6) User settings Check the user setting items according to Table 2. Where these do not agree, refer to the OPERATING INSTRUCTIONS (USER'S GUIDE) and set the items as described.	
(7) SERVICE MENU setting Verify what to set in the SERVICE MENU, and set whatever is necessary.(Fig.1) Refer to the SERVICE ADJUSTMENT for setting.	

TABLE 1 (System Constant setting)

Setting item	Setting content	Setting value
MODEL	AV-36230A → AV-27D502A → AV-32D502A → AV-36D502A → AV-32D302A → AV-36D302A → AV-32D202A → AV-36D202A → AV-27260A → AV-32260A → AV-36260A → AV-32230A → AV-36230A	AV-27D502A
CCD	YES ⇄ NO	YES
V-CHIP	YES ⇄ NO	YES
CAN V-CHIP	YES ⇄ NO	YES

TABLE 2 (User setting value)

Setting item	Setting value
1. Use remote controller keys	
POWER	OFF
CHANNEL	CH-02
VOLUME	5
INPUT	TV
HYPER SURROUND	OFF
BBE	ON
DISPLAY	OFF
SLEEP TIMER	0
VIDEO STATUS	CHOICE
PIP SOURCE	CH-04
PIP ON (PIP POSITION)	LEFT LOWER SIDE
2. Setting of MENU	
PICTURE ADJUST	
TINT	CENTER
COLOR	CENTER
PICTURE	CENTER
BRIGHT	CENTER
DETAIL	CENTER
NOISE MUTING	ON
SET VIDEO STATUS	ALL CENTER
SOUND ADJUST	
BASS	CENTER
TREBLE	CENTER
BALANCE	CENTER
MTS	STEREO
CLOCK/TIMERS	
SET CLOCK	Unnecessary to set
ON/OFF TIMER	NO
INITIAL SETUP	
TV SPEAKER	ON
COMPONENT-IN	NO
LANGUAGE	ENG
CLOSED CAPTION	OFF
AUTO TUNER SETUP	TUNER MODE: AIR
CHANNEL SUMMARY	Unnecessary to set
V-CHIP	OFF
SET LOCK CODE	Unnecessary to set

REPLACEMENT OF CHIP COMPONENT

■ CAUTIONS

1. Avoid heating for more than 3 seconds.
2. Do not rub the electrodes and the resist parts of the pattern.
3. When removing a chip part, melt the solder adequately.
4. Do not reuse a chip part after removing it.

■ SOLDERING IRON

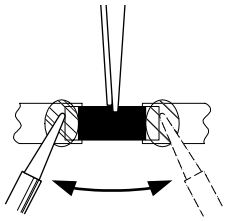
1. Use a high insulation soldering iron with a thin pointed end of it.
2. A 30w soldering iron is recommended for easily removing parts.

■ REPLACEMENT STEPS

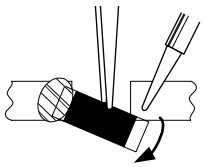
1. How to remove Chip parts

◆ **Resistors, capacitors, etc.**

(1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.

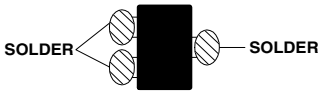


(2) Shift with tweezers and remove the chip part.

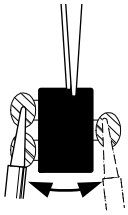


◆ **Transistors, diodes, variable resistors, etc.**

(1) Apply extra solder to each lead.



(2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.

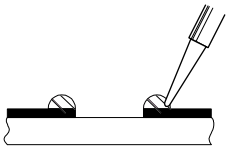


Note : After removing the part, remove remaining solder from the pattern.

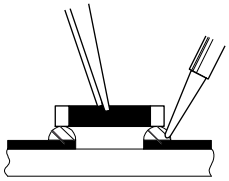
2. How to install Chip parts

◆ **Resistors, capacitors, etc.**

(1) Apply solder to the pattern as indicated in the figure.



(2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

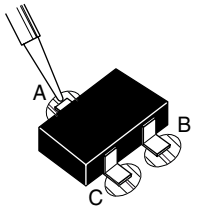


◆ **Transistors, diodes, variable resistors, etc.**

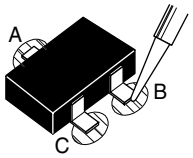
(1) Apply solder to the pattern as indicated in the figure.

(2) Grasp the chip part with tweezers and place it on the solder.

(3) First solder lead **A** as indicated in the figure.



(4) Then solder leads **B** and **C**.



SERVICE ADJUSTMENTS

ADJUSTMENT PREPARATION

1. **You can make the necessary adjustments for this unit with either the remote control unit or with the adjustment equipment and parts as given below.**
2. **Adjustment with the remote control unit is made on the basis of the initial setting values, however, the new setting values which set the screen to its optimum condition may differ from the initial settings.**
3. Make sure that AC power is turned on correctly.
4. Turn on the power for the set and test equipment before use, and start the adjustment procedures after waiting at least 30 minutes.
5. Unless otherwise specified, prepare the most suitable reception or input signal for adjustment.
6. Never touch any adjustment parts, which are not specified in the list for this adjustment-variable resistors, transformers, capacitors, etc.
7. Presetting before adjustment.
   Unless otherwise specified in the adjustment instructions, preset the following functions with the remote control unit.

● User mode setting position

VIDEO STATUS	STANDARD
HYPER SURROUND	OFF
BASS, TREBLE, BALANCE	CENTER
TINT, COLOR, PICTURE, BRIGHT, DETAIL	CENTER

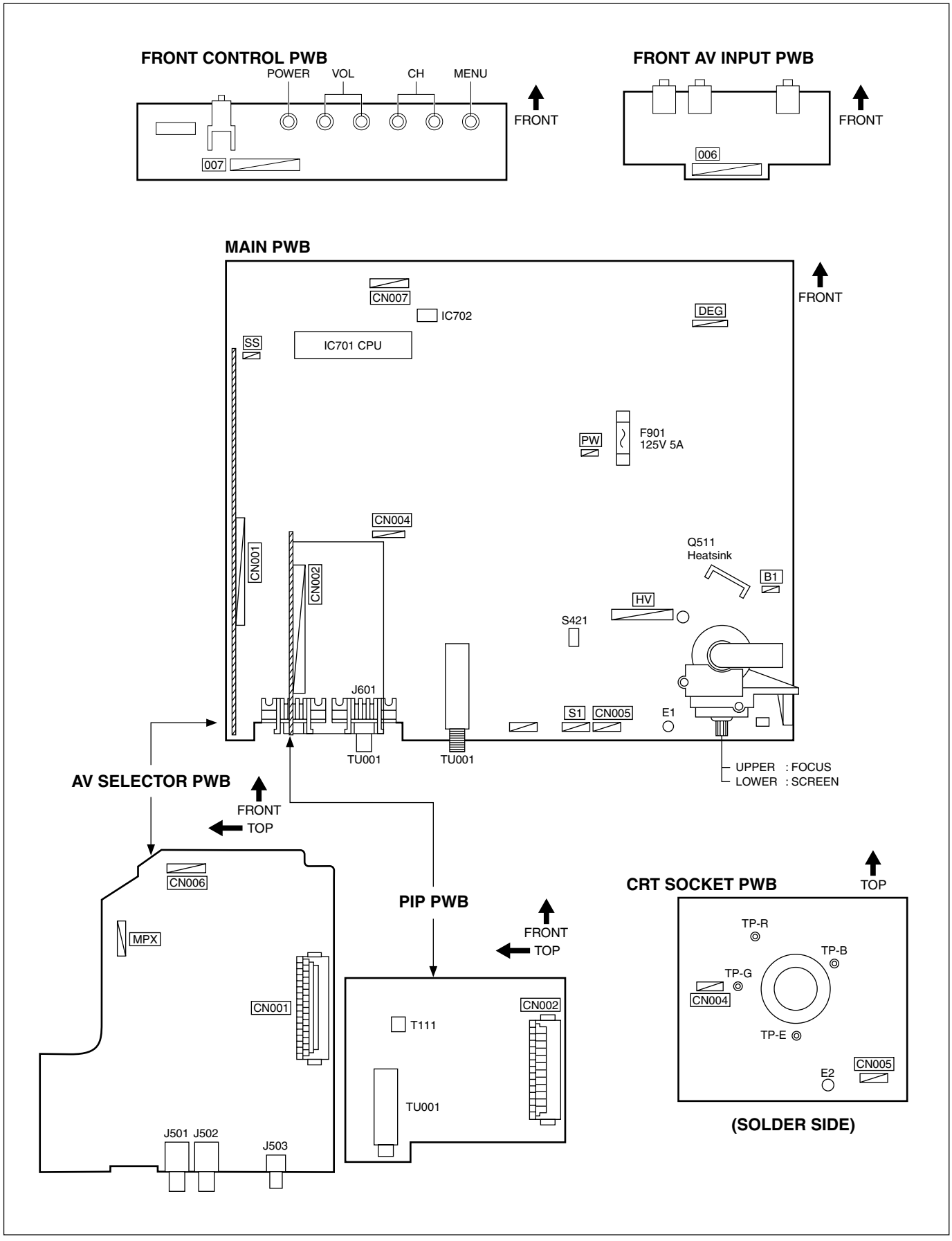
MEASURING INSTRUMENT

1. DC voltmeter(or digital voltmeter)
2. Oscilloscope
3. Signal generator (Pattern generator) [NTSC]
4. Remote control unit
5. TV audio multiplex signal generator
6. Frequency counter
7. Resistor (1MΩ)

ADJUSTMENT ITEMS

- Check of B1 POWER SUPPLY
- RF AGC adjustment
- TU2 VCO adjustment
- FOCUS adjustment
- WHITE BALANCE adjustment
  - WHITE BALANCE (Low Light) adjustment
  - WHITE BALANCE (High Light) adjustment
  - PIP HIGH LIGHT WHITE BALANCE adjustment
- BRIGHT adjustment
  - SUB BRIGHT adjustment
- CONTRAST adjustment
  - SUB CONTRAST adjustment
- DEFLECTION adjustment
  - V POSITION and V SIZE adjustment
  - H POSITION adjustment
  - PIP DISPLAY POSITION adjustment
- CHROMA adjustment
  - SUB COLOR adjustment
  - SUB TINT adjustment
- MTS circuit adjustment
  - INPUT LEVEL check
  - STEREO VCO adjustment
  - SAP VCO adjustment
  - FILTER check
  - SEPARATION adjustment

ADJUSTMENT LOCATIONS



BASIC OPERATION OF SERVICE MENU

1. TOOL OF SERVICE MENU OPERATION

Operate the SERVICE MENU with the REMOTE CONTROL UNIT.

2. SERVICE MENU ITEMS

In general, basic setting (adjustments) items or verifications are performed in the SERVICE MENU.

- PICTURE ..... This sets the setting values (adjustment values) of the VIDEO/CHROMA and DEFLECTION circuits.
- SOUND ..... This sets the setting values (adjustment values) of the AUDIO circuit.
- THEATER ..... This is used when the THEATER MODE is adjusted.
- OTHERS ..... This is used when the OTHERS MODE is adjusted.
- PIP ..... This sets the setting values (adjustment values) of the PIP circuit.
- LOW LIGHT ..... This sets the setting values (adjustment values) of the WHITE BALANCE circuit.
- HIGH LIGHT ..... This sets the setting values (adjustment values) of the WHITE BALANCE circuit.
- RF AFC1 ..... This is used when the RF AFC1 MODE is verified. **[Do not adjust]**
- RF AFC2 ..... This is used when the RF AFC2 MODE is verified. **[Do not adjust]**
- TU2 VCO ..... This is used when the TU2 VCO MODE is adjusted.
- I2C BUS CTRL ..... This is used when ON/OFF of the I2C BUS CTRL is set. **[Fixed ON]**

3. Basic Operations of the SERVICE MENU

(1) How to enter the SERVICE MENU

Press **SLEEP TIMER** key and, while the indication of **"SLEEP TIMER 0 MIN."** is being displayed, press **DISPLAY** key and **VIDEO STATUS** key on the remote control unit simultaneously to enter the **SERVICE MENU** screen ① shown in the next figure page.

(2) SERVICE MENU screen selection

Press the UP / DOWN key of the MENU to select any of the following items.
(The letters of the selected items are displayed in yellow.)

- PICTURE
- SOUND
- THEATER
- OTHERS
- PIP
- LOW LIGHT
- HIGH LIGHT
- RF AFC1
- RF AFC2
- TU2 VCO
- I2C BUS CTRL

(3) Enter the any setting (adjustment) mode

- **PICTURE, SOUND and OTHERS mode**

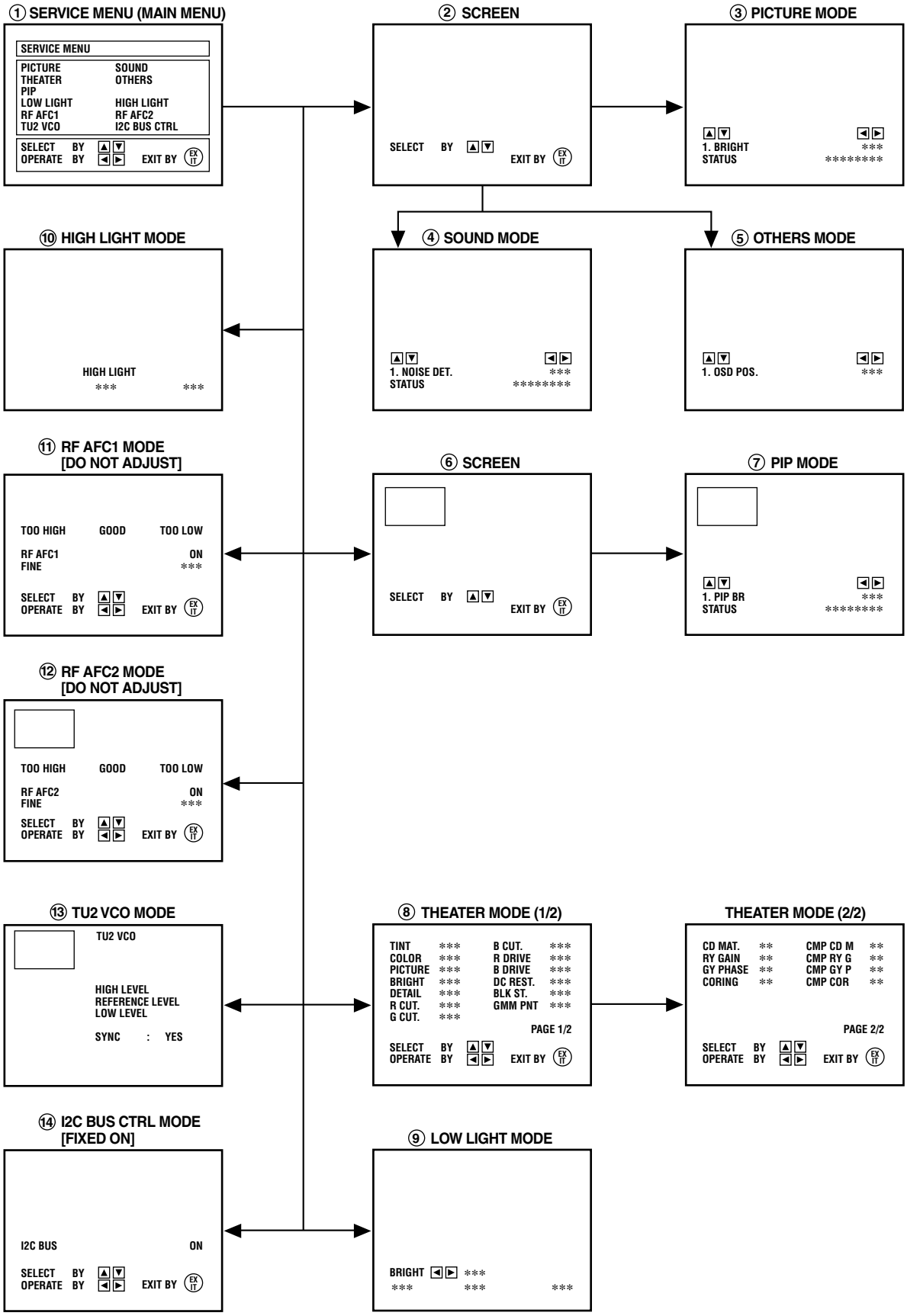
1) If select any of PICTURE, SOUND or OTHERS items, and the LEFT / RIGHT key is pressed from SERVICE MENU (MAIN MENU), the screen ② will be displayed as shown in figure page later.
2) Then the UP / DOWN key is pressed, the PICTURE mode screen ③ or the SOUND mode screen ④ or the OTHER mode screen ⑤ is displayed, and the PICTURE, SOUND or OTHERS setting can be performed.

- **PIP mode**

1) If select the PIP item, and the LEFT/RIGHT key is pressed from SERVICE MENU (MAIN MENU), the screen ⑥ will be displayed as shown in figure page later.
2) Then the UP/DOWN key is pressed, the PIP mode screen ⑦ is displayed, and the PIP setting can be performed.

- **THEATER, LOW LIGHT, HIGH LIGHT, RF AFC1, RF AFC2, TU2 VCO and I2C BUS CTRL mode**

1) If select any of THEATER / LOW LIGHT / HIGH LIGHT / RF AFC1 / RF AFC2 / TU2 VCO / I2C BUS CTRL items, and the LEFT / RIGHT key is pressed from SERVICE MENU (MAIN MENU), the screens ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ will be displayed as shown in figure page later.
2) Then the settings or verifications can be performed.

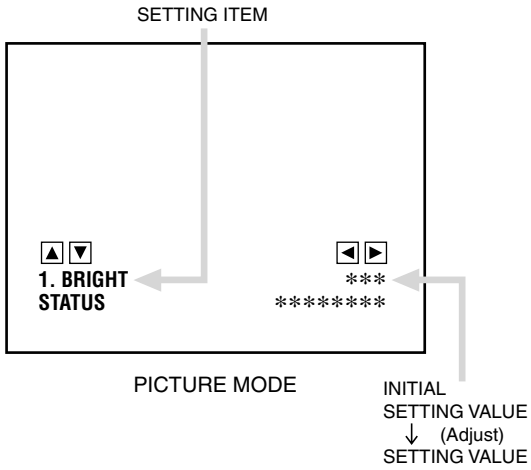

① SERVICE MENU (MAIN MENU)
SERVICE MENU
PICTURE
SOUND
THEATER
OTHERS
PIP
LOW LIGHT
HIGH LIGHT
RF AFC1
RF AFC2
TU2 VCO
I2C BUS CTRL
SELECT BY
OPERATE BY
EXIT BY
② SCREEN
SELECT BY
EXIT BY
③ PICTURE MODE
1. BRIGHT ***
STATUS ********
④ SOUND MODE
1. NOISE DET. ***
STATUS ********
⑤ OTHERS MODE
1. OSD POS. ***
⑥ SCREEN
SELECT BY
EXIT BY
⑦ PIP MODE
1. PIP BR ***
STATUS ********
⑧ THEATER MODE (1/2)
TINT *** B CUT. ***
COLOR *** R DRIVE ***
PICTURE *** B DRIVE ***
BRIGHT *** DC REST. ***
DETAIL *** BLK ST. ***
R CUT. *** GMM PNT ***
G CUT. ***
PAGE 1/2
SELECT BY
OPERATE BY
EXIT BY
THEATER MODE (2/2)
CD MAT. ** CMP CD M **
RY GAIN ** CMP RY G **
GY PHASE ** CMP GY P **
CORING ** CMP COR **
PAGE 2/2
SELECT BY
OPERATE BY
EXIT BY
⑨ LOW LIGHT MODE
BRIGHT *** *** *** ***
⑩ HIGH LIGHT MODE
HIGH LIGHT
*** ***
⑪ RF AFC1 MODE
[DO NOT ADJUST]
TOO HIGH GOOD TOO LOW
RF AFC1 ON
FINE ***
SELECT BY
OPERATE BY
EXIT BY
⑫ RF AFC2 MODE
[DO NOT ADJUST]
TOO HIGH GOOD TOO LOW
RF AFC2 ON
FINE ***
SELECT BY
OPERATE BY
EXIT BY
⑬ TU2 VCO MODE
TU2 VCO
HIGH LEVEL
REFERENCE LEVEL
LOW LEVEL
SYNC : YES
⑭ I2C BUS CTRL MODE
[FIXED ON]
I2C BUS ON
SELECT BY
OPERATE BY
EXIT BY

(4) Setting method

1) UP / DOWN key of the MENU
   Select the SETTING ITEM.

2) LEFT / RIGHT key of the MENU
   Setting (adjust) the SETTING VALUE of the SETTING ITEM.
   When the key is released the SETTING VALUE will be stored (memorized).

3) EXIT key
   Returns to the previous screen.



(5) Releasing SERVICE MENU

1) After returning to the SERVICE MENU upon completion of the setting (adjustment) work, press the EXIT key again.

★ The settings for LOW LIGHT and HIGH LIGHT are described in the WHITE BALANCE page of ADJUSTMENT.

INITIAL SETTING VALUE OF SERVICE MENU

1. **Adjustment of the SERVICE MENU is made on the basis of the initial setting values; however, the new setting values which set the screen in its optimum condition may differ from the initial setting.**
2. **Do not change the initial setting values of the setting (Adjustment) items not listed in "ADJUSTMENT".**

● PICTURE MODE

☆ The four setting items in the video mode No.6 EXT BRI., No.7 EXT PIC., No.8 EXT COL. and No.9 EXT TINT are linked to the items in the TV MODE No.1 BRIGHT, No.2 PICTURE, No.3 COLOR and No.4 TINT, respectively. When the setting items in the TV mode are adjusted, the values in the setting items in the video mode are revised automatically to the same values in the TV mode.(The initial setting values given in ( ) are off-set values.)

☆ When the four items (No.6, 7, 8 and 9) are adjusted in the video mode, the setting values in each item are revised independently.

No.	Setting (Adjustment) item	Variable range	Initial setting value	
			AV-27D502/AR	AV-27D502/AS
1	BRIGHT	000 — 127	063	←
2	PICTURE	000 — 127	080	←
3	COLOR	000 — 127	072	←
4	TINT	000 — 127	065	←
5	TV DETAIL	000 — 063	055	←
6	EXT BRIGHT	±025	±000	←
7	EXT PICT.	±025	±006	←
8	EXT COLOR	±025	–006	←
9	EXT TINT	±025	±000	←
10	EXT DETAIL	000 — 063	050	←
11	CMP BRIGHT	±025	±000	←
12	CMP PICT.	±025	+006	←
13	CMP COLOR	000 — 127	086	←
14	CMP TINT	000 — 127	064	074
15	CMP DETAIL	000 — 063	050	←
16	CMP R CUT	±025	–011	←
17	CMP G CUT	±025	±000	←
18	CMP B CUT	±025	–001	←
19	CMP R DRV	±025	±000	←
20	CMP B DRV	±025	±000	←
21	WPL	000 / 001	001	←
22	B. B. SW	000 / 001	000	←
23	C TRAP	000 / 001	000	←
24	CORING	000 / 001	000	←
25	CMP CORING	000 / 001	001	←
26	TV SHARPF	000 / 001	001	←
27	EXT SHARPF	000 / 001	001	←
28	CMP SHARPF	000 / 001	001	←
29	RGB CONT	000 — 063	031	←
30	TV ID SENS	000 / 001	000	←
31	EXT ID SEN	000 / 001	001	←
32	F ID	000 / 001	000	←
33	Y MUTE	000 / 001	000	←
34	AUDIO ATT	000 — 127	127	←
35	SUB CONT	000 — 015	008	←

No.	Setting (Adjustment) item	Variable range	Initial setting value	
			AV-27D502/AR	AV-27D502/AS
36	R Y GAIN	000 / 001	001	←
37	CMP R Y GA	000 / 001	001	←
38	G Y PHASE	000 / 001	000	←
39	CMP G Y PH	000 / 001	000	←
40	CD MATRIX	000 — 003	003	←
41	CMP CD MAT	000 — 003	002	←
42	BLACK ST	000 — 003	001	←
43	DC REST	000 — 003	001	←
44	COLOR GMM	000 / 001	000	←
45	UV/CBCR	000 / 001	001	←
46	AT FLESH	000 / 001	000	←
47	ABL GAIN	000 — 003	000	←
48	ABL ST PNT	000 — 003	003	←
49	RGB ABCL	000 / 001	001	←
50	TV BPF TOF	000 / 001	001	←
51	EXT BPF TOF	000 / 001	000	←
52	GMM PNT	000 — 003	003	←
53	SVM GAIN	000 — 003	003	←
54	CMP SVM GA	000 — 003	003	←
55	SVM PHASE	000 / 001	000	←
56	AUDIO SW	000 / 001	000	←
57	BUZZ	000 / 001	000	←
58	IF FREQ	000 / 001	000	←
59	RF AGC	000 — 063	045	←
60	AFT MUTE	000 / 001	000	←
61	AFT SENS	000 / 001	001	←
62	R/G DRV SW	000 / 001	001	←
63	BLK SW	000 / 001	000	←
64	V S COR	000 — 015	011	←
65	V LIN	000 — 015	010	←
66	V SIZE	000 — 127	056	065
67	V AGC	000 / 001	000	←
68	V CENTER	000 — 063	000	←
69	TV AFC	000 — 003	000	←
70	EXT AFC	000 — 003	002	←
71	V POSI	000 — 007	000	←
72	H POSI	000 — 031	021	022
73	H SIZE	000 — 063	000	←
74	TV V FREQ	000 — 003	000	←
75	EXT V FREQ	000 — 003	003	←
76	SIDE PIN	000 — 063	000	←
77	STAND BY	000 / 001	000	←
78	TRAPEZ	000 — 063	000	←
79	V RAMP REF	000 / 001	001	←
80	V 48HZ	000 / 001	000	←
81	V EHT	000 — 007	000	←
82	TOP PIN	000 — 031	010	←

No.	Setting (Adjustment) item	Variable range	Initial setting value	
			AV-27D502/AR	AV-27D502/AS
83	H EHT	000 — 007	000	←
84	BTM PIN	000 — 031	000	←
85	V BLK LOW	000 — 003	000	←
86	V BLK UP	000 — 003	000	←
87	CAPTION IN	000 / 001	000	←
88	H BLK	000 / 001	000	←
89	SCREEN	000 / 001	000	←
90	ACB SW	000 / 001	000	←
91	ACB PULSE	000 — 015	007	←
92	OVER MODU	000 / 001	001	←
93	APACON LIM	000 / 001	001	←
94	TEST	000 — 255	128	←
95	RF S/N TY	000 — 002	002	←
96	EXT S/N TY	000 — 002	002	←
97	RF SN YC E	000 — 255	005	←
98	RF SN YC F	000 — 255	016	←
99	RF SN YC G	000 — 063	032	←
100	RF SN YC H	000 — 255	025	←
101	EX SN YC E	000 — 255	005	←
102	EX SN YC F	000 — 255	016	←
103	EX SN YC G	000 — 063	032	←
104	EX SN YC H	000 — 255	025	←
105	RF SN VC 1	000 — 063	000	←
106	RF SN VC 2	000 — 063	007	←
107	RF SN VC 3	000 — 063	014	←
108	RF SN VC 4	000 — 063	021	←
109	EX SN VC 1	000 — 063	000	←
110	EX SN VC 2	000 — 063	007	←
111	EX SN VC 3	000 — 063	014	←
112	EX SN VC 4	000 — 063	021	←
113	COR LEVEL	000 — 003	003	←
114	VNR CHK	000 — 255	003	←
115	YC SN TIME	000 — 255	005	←
116	VC SN TIME	000 — 255	005	←
117	VM DATA A	±127	+008	←
118	VM DATA B	±127	–004	←
119	VM DATA C	±127	–016	←
120	VM DATA D	000 / 001	000	←
121	VC SN STOP	000 — 255	002	←
122	CH MUTE	000/001	000	←
123	VM OFF TY	000/001	000	←
124	VC VM OFF	000/001	001	←
125	YC VM OFF	000 — 255	255	←
126	F LOCK	000 — 002	002	←
127	VF LOCK EX	000/001	000	←
128	PURI RGB	000 — 063	031	←
129	PURI W BCK	000/001	000	←

● SOUND MODE

No.	Setting (Adjustment) item	Variable range	Initial setting value	
			AV-27D502/AR	AV-27D502/AS
1	NOISE DET.	000 / 001	001	←
2	IN LEVEL	000 — 063	025	←
3	FH MONITOR	000 / 001	000	←
4	STEREO VCO	000 — 063	030	←
5	PILOT CAN.	000 / 001	000	←
6	FILTER	000 — 063	030	←
7	LOW SEP.	000 — 063	028	←
8	HI SEP.	000 — 063	025	←
9	5FH MON.	000 / 001	000	←
10	SAP VCO	000 — 063	003	←
11	IN GAIN	000 / 001	000	←
12	FIL. OFFSET	±010	±000	←
13	BBE BASS	±010	+003	←
14	BBE TRE	±010	+003	←

● THEATER MODE

Setting (Adjustment) item	Variable range	Initial setting value	
		AV-27D502/AR	AV-27D502/AS
TINT	±20	–06	←
COLOR	±20	–03	←
PICTURE	±50	–15	←
BRIGHT	±20	±00	←
DETAIL	±20	+03	←
R CUT.	±20	±00	←
G CUT.	±20	±00	←
B CUT.	±20	±00	←
R DRIVE	±99	+07	←
B DRIVE	±99	–25	←
DC REST.	00 — 03	01	←
BLK ST.	00 — 03	00	←
GMM PNT	00 — 03	01	←
CD MAT.	00 — 03	01	←
RY GAIN	00 / 01	01	←
GY PHASE	00 / 01	00	←
CORING	00 / 01	01	←
CMP CD M	00 — 03	01	←
CMP RY G	00 / 01	01	←
CMP GY P	00 / 01	00	←
CMP COR	00 / 01	01	←

● OTHERS MODE

No.	Setting (Adjustment) item	Variable range	Initial setting value	
			AV-27D502/AR	AV-27D502/AS
1	OSD POS.	000 — 007	002	←
2	CCD POS.	000 — 015	003	←
3	EOSEL	000 / 001	000	←
4	MENU COLOR	000 — –030	–010	←
5	MENU PICT.	000 — –030	–010	←
6	MENU BRI.	000 — –030	–010	←

● PIP MODE

No.	Setting (Adjustment) item	Variable range	Initial setting value	
			AV-27D502/AR	AV-27D502/AS
1	PIP BR	000 — 015	004	←
2	PIP PICT	030 — 045	045	042
3	PIP TINT	000 — 063	036	←
4	PIP COL	000 — 015	010	←
5	P R CUT	000 — 015	003	←
6	P G CUT	000 — 015	000	←
7	P B CUT	000 — 015	002	←
8	P R DR	000 — 255	052	←
9	P G DR	000 — 255	055	←
10	P B DR	000 — 255	060	←
11	LEFT POS.	000 — 255	020	←
12	RIGHT POS.	000 — 255	017	←
13	UPPER POS.	000 — 127	012	←
14	LOWER POS.	000 — 127	011	←
15	PICT LOCK	000 / 001	001	←
16	SELDEL	000 — 015	000	←
17	AGCFIX	000 / 001	001	←
18	AGCADST	000 / 001	000	←
19	AGC	000 — 015	007	←
20	VSPDEL	000 — 031	000	←
21	VSPISQ	000 / 001	001	←
22	YCOR	000 / 001	001	←
23	XFREQF	000 / 001	001	←
24	WTCHDG	000 / 001	001	←
25	COLON	000 / 001	000	←
26	ACQNEW	000 / 001	000	←
27	DSTDET	000 / 001	001	←
28	CRIBEOK	000 / 001	000	←
29	FCBEOK	000 / 001	000	←
30	NOCRID	000 / 001	000	←
31	NONSED	000 / 001	000	←

● LOW LIGHT MODE

Setting (Adjustment) item	Variable range	Initial setting value
R CUTOFF	0 — 255	085
G CUTOFF	0 — 255	085
B CUTOFF	0 — 255	085

● HIGH LIGHT MODE

Setting (Adjustment) item	Variable range	Initial setting value
R DRIVE	0 — 127	060
B DRIVE	0 — 127	060

● RF AFC1 MODE

Setting (Adjustment) item	Variable range	Initial setting value
RF AFC1	ON / OFF	ON (DO NOT ADJUST)
FINE	-77 — +77	±××

● RF AFC2 MODE

Setting (Adjustment) item	Variable range	Initial setting value
RF AFC2	ON / OFF	ON (DO NOT ADJUST)
FINE	-77 — +77	±××

● I2C BUS CTRL MODE

Setting (Adjustment) item	Variable range	Initial setting value
I2C BUS	ON/OFF	**[FIXED ON]** (DO NOT ADJUST)

ADJUSTMENTS

B1 POWER SUPPLY

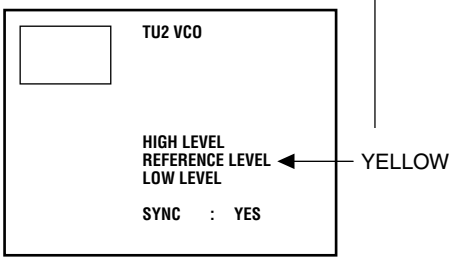
Item	Measuring instrument	Test point	Adjustment part	Description
Check of B1 POWER SUPPLY	**DC Voltmeter**	**B1 (pin 1) GND (pin 3) [B1 connector in MAIN PWB]**		1. Receive a black-and-white signal. 2. Connect the DC Voltmeter between B1 and GND (between pin 1 and 3 of the B1 connector). 3. Confirm that the voltage is DC134V $^{+2V}_{-2V}$.

ADJUSTMENT OF RF AGC

Item	Measuring instrument	Test point	Adjustment part	Description
RF AGC adjustment	**Remote control unit**			1. Receive a broadcast. 2. Select the No.59 RF AGC of the PICTURE MODE. 3. Press the MUTE key of the remote control unit to turn off color. 4. With the LEFT key of the remote control unit, get noise in the screen picture. (0 side of setting value) 5. Press the RIGHT key of the remote control unit and stop when noise disappears from the screen. 6. Change to other channels and make sure that there Is no irregularity. 7. Press the MUTE key and get color out.

ADJUSTMENT OF TU2 VCO

Item	Measuring instrument	Test point	Adjustment part	Description
TU2 VCO adjustment	**Remote control unit**		**T111 (CW TRANSF) [PIP PWB]**	1. Receive a broadcast. 2. Select the TU2 VCO MODE from the SERVICE MENU. 3. Confirm “SYNC” is “YES”. 4. Turn the T111 (CW TRANSF) until “REFERENCE LEVEL” characters become yellow. 5. Confirm “SYNC” is “YES” again.



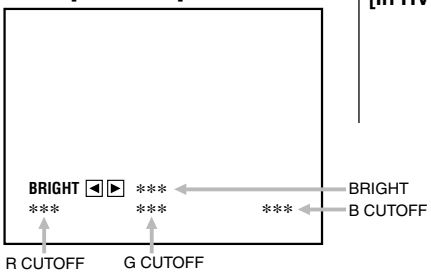
ADJUSTMENT OF FOCUS

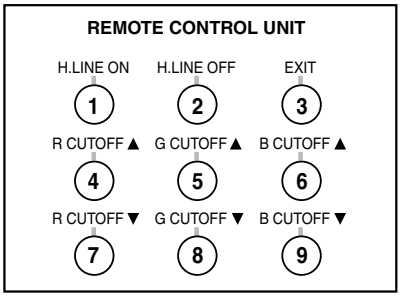
Item	Measuring instrument	Test point	Adjustment part	Description
FOCUS adjustment	**Signal generator**		**FOCUS VR [In HVT]** **H VR [In HVT]**	**Notes:** • Proceed to the following this adjustment after having completed the adjustments of B1 POWER SUPPLY, SUB BRIGHT and PICTURE. • Set VIDEO STATUS to “STANDARD”. • The final adjustment of convergence must be done after the FOCUS adjustment. (Convergence is changed by FOCUS adjustment.) 1. Receive a crosshatch signal. 2. While looking at the screen center, adjust the FOCUS VR so that the horizontal lines will be clear and in fine detail. 3. Adjust the H VR so that the vertical lines will be clear and in fine detail. 4. Make sure that the picture is in focus even when the screen gets darkened.

ADJUSTMENT OF WHITE BALANCE

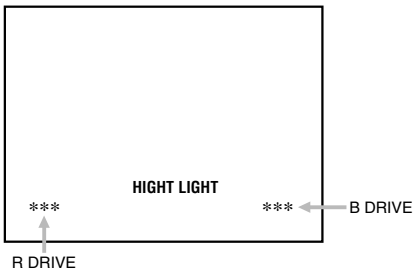
Item	Measuring instrument	Test point	Adjustment part	Description
WHITE BALANCE (Low Light) adjustment	**Signal generator** **Remote control unit**		**No.1 BRIGHT** **R CUTOFF** **G CUTOFF** **B CUTOFF** **SCREEN VR [In HVT]**	**Note :** Set VIDEO STATUS to “STANDARD”. 1. Receive a black-and-white signal.(Color off) 2. Select the [LOW LIGHT] MODE from the SERVICE MENU. 3. Set the initial setting value of BRIGHT is 063 with the LEFT / RIGHT key of the remote control unit. 4. Set the initial setting value of R CUTOFF, G CUTOFF and B CUTOFF is 085 with the ④ to ⑨ key of the remote control unit. 5. Display a single horizontal line by pressing the ① key of the remote control unit. 6. Turn the screen VR all the way to the left. 7. Turn the screen VR gradually to the right from the left until either one of the red, blue or green colors appears faintly. 8. Adjust the two colors which did not appear until the single horizontal line that is displayed becomes white using the ④ to ⑨ keys of the remote control unit. 9. Turn the screen VR to where the single horizontal line glows faintly. 10. Press the ② key to return to the regular screen. * The ③ EXIT key is the cancel key for the WHITE BALANCE.
WHITE BALANCE (High Light) adjustment	**Signal generator** **Remote control unit**		**R DRIVE** **B DRIVE**	**Notes:** • Proceed to the following this adjustment after having completed the adjustment of LOW LIGHT WHITE BALANCE. • Set VIDEO STATUS to “STANDARD”. 1. Receive a black-and-white signal. (Color off) 2. Select the [HIGH LIGHT] MODE from the SERVICE MENU. 3. Set the initial setting value of R DRIVE and B DRIVE is 060 with the ④, ⑥, ⑦ and ⑨ keys of the remote control unit. 4. Adjust the screen until it becomes white using the ④, ⑥, ⑦ and ⑨ keys of the remote control unit. * The ③ (EXIT) key is the cancel key for the WHITE BALANCE.

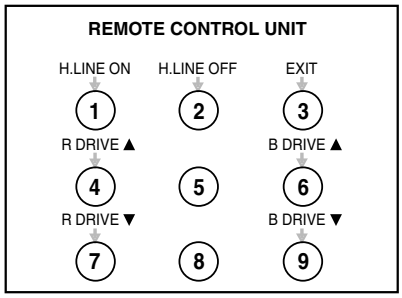
[LOW LIGHT] MODE



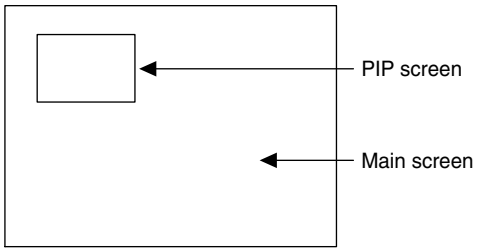


[HIGH LIGHT] MODE





Item	Measuring instrument	Test point	Adjustment part	Description
PIP HIGH LIGHT WHITE BALANCE adjustment	**Signal generator** **Remote control unit**		**No.8 P R DR** **No.10 P B DR**	**Notes:** • Proceed to the following this adjustment after having completed the adjustments of LOW LIGHT WHITE BALANCE and HIGH LIGHT WHITE BALANCE for the main picture. • Set VIDEO STATUS to “STANDARD”. 1. Receive a black-and-white signal. (Color off) 2. Select the PIP MODE from the SERVICE MENU. 3. Then adjust the white color of the PIP screen using the No. 8 P R DR and the No. 10 P B DR of the PIP MODE so that it is the same brightness as the main screen.



ADJUSTMENT OF BRIGHT

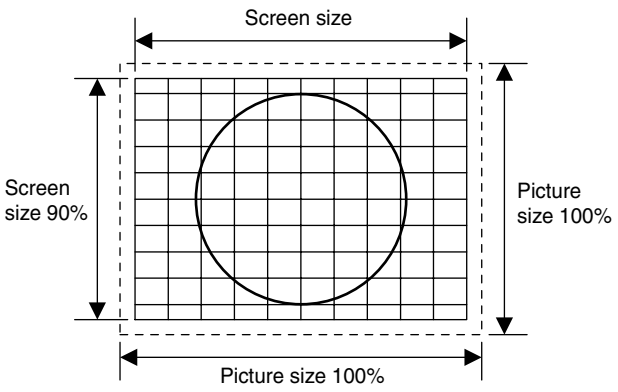
Item	Measuring instrument	Test point	Adjustment part	Description
SUB BRIGHT adjustment	**Remote control unit**		**No.1 BRIGHT**	**Notes:** • Proceed to the following this adjustment after having completed the adjustments of LOW LIGHT WHITE BALANCE and HIGH LIGHT WHITE BALANCE. • Set VIDEO STATUS to “STANDARD”. 1. Receive a broadcast. 2. Select the No.1 BRIGHT of the PICTURE MODE. 3. Set the initial setting value of the No.1 BRIGHT with the LEFT / RIGHT key of the remote control unit. 4. If the brightness is not best with the initial setting value, make fine adjustment of the No.1 BRIGHT until you get the optimum brightness.

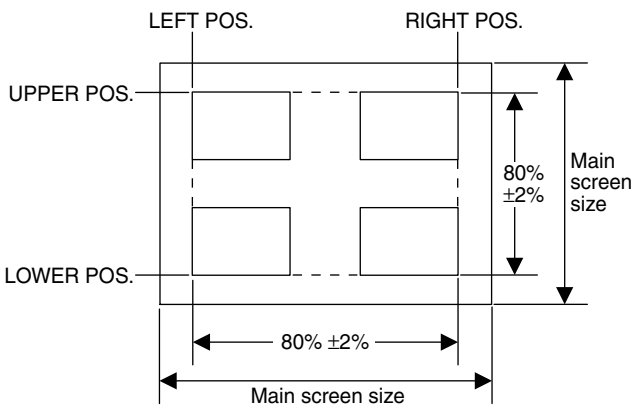
ADJUSTMENT OF CONTRAST

Item	Measuring instrument	Test point	Adjustment part	Description
SUB CONTRAST adjustment	**Remote control unit**		**No.2 PICTURE**	**Notes:** • Proceed to the following this adjustment after having completed the adjustment of SUB BRIGHT. • Set VIDEO STATUS to “STANDARD”. 1. Receive a broadcast. 2. Select the No.2 PICTURE of the PICTURE MODE. 3. Set the initial setting value of the No.2 PICTURE with the LEFT / RIGHT key of the remote control unit. 4. If the contrast is not best with the initial setting value, make fine adjustment of the No.2 PICTURE until you get the optimum contrast.

ADJUSTMENT OF DEFLECTION

Item	Measuring instrument	Test point	Adjustment part	Description
V POSITION and V SIZE adjustment	**Signal generator** **Remote control unit**		**No.71 V POSI** **No.66 V SIZE** **S1421(V CENTER SW) [MAIN PWB]**	**Note:** Proceed to the following this adjustment after having completed the adjustments of SUB BRIGHT and SUB CONTRAST. 1. Receive a crosshatch signal with circle pattern. 2. Select the No.71 V POSI of the PICTURE MODE. 3. Confirm the value of No.71 V POSI is “0”. 4. Switch the S1421 (V CENTER SW) so that a crosshatch signal become to the center of CRT. 5. Select the No.66 V SIZE of the PICTURE MODE to squeeze the raster. 6. Adjust the No.66 V SIZE untill the vertical screen size is 90%.
H POSITION adjustment	**Signal generator** **Remote control unit**		**No.72 H POSI**	**Note:** Proceed to the following this adjustment after having completed the adjustments of FOCUS, SUB BRIGHT, SUB CONTRAST, V POSITION and V SIZE. 1. Receive a crosshatch signal. 2. Select the No.72 H POSI of the PICTURE MODE. 3. Adjust the No.72 H POSI until the screen will be horizontally centered.
PIP DISPLAY POSITION adjustment	**Remote control unit**		**No.11 LEFT POS.** **No.12 RIGHT POS.** **No.13 UPPER POS.** **No.14 LOWER POS.**	**Notes:** • Proceed to the following this adjustment after having completed the adjustments of V POSITION, V SIZE and H POSITION for the main picture. • Set VIDEO STATUS to “STANDARD”. 1. Receive a broadcast. 2. Select the PIP MODE from the SERVICE MENU. 3. Then adjust the PIP screen size so that it occupies 80% ± 2% of the main screen area.





ADJUSTMENT OF CHROMA

<table>
<tr><th>Item</th><th>Measuring instrument</th><th>Test point</th><th>Adjustment part</th><th>Description</th></tr>
<tr><td>SUB COLOR adjustment</td><td>Signal generator

Oscilloscope

Remote control unit</td><td>TP-B
TP-E(⏚)
[CRT SOCKET PWB]</td><td>No.3 COLOR</td><td>Notes:
• Proceed to the following this adjustment after having completed the adjustment of CONTRAST.
• Set VIDEO STATUS to “STANDARD”.

[Method of adjustment without measuring instrument]
1. Receive a broadcast.
2. Select the No.3 COLOR of the PICTURE MODE.
3. Set the initial setting value of the No.3 COLOR with the LEFT/RIGHT key of the remote control unit.
4. If the color is not the best with the Initial setting value, make fine adjustment of the No.3 COLOR until you get the optimum color.</td></tr>
<tr><td></td><td></td><td></td><td></td><td>Notes:
• Proceed to the following this adjustment after having completed the adjustment of CONTRAST.
• Set VIDEO STATUS to “STANDARD”.

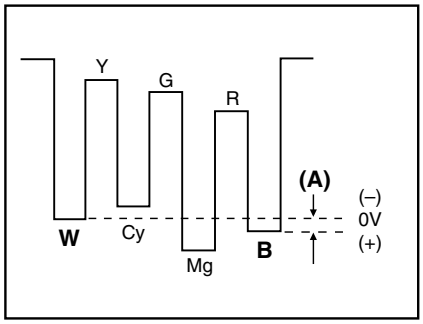
[Method of adjustment using measuring instrument]
1. Input the full field color bar signal (75% white).
2. Select the No.3 COLOR of the PICTURE MODE.
3. Set the initial setting value of the No.3. COLOR with the LEFT/RIGHT key of the remote control unit.
4. Connect the oscilloscope between TP-B and TP-E.
5. Adjust COLOR and bring the value of (A) in the illustration to the voltage shown in the table 1.</td></tr>
<tr><td>SUB TINT adjustment</td><td>Signal generator

Oscilloscope

Remote control unit</td><td>TP-B
TP-E(⏚)
[CRT SOCKET PWB]</td><td>No.4 TINT</td><td>Notes:
• Proceed to the following this adjustment after having completed the adjustment of CONTRAST.
• Set VIDEO STATUS to “STANDARD”.

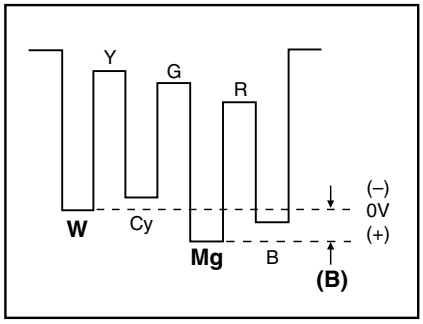
[Method of adjustment without measuring instrument]
1. Receive a broadcast.
2. Select the No.4 TINT of the PICTURE MODE.
3. Set the initial setting value of the No.4 TINT with the LEFT/RIGHT key of the remote control unit.
4. If the tint is not the best with the initial setting value, make fine adjustment of the No.4 TINT until you get the optimum tint.</td></tr>
<tr><td></td><td></td><td></td><td></td><td>Notes:
• Proceed to the following this adjustment after having completed the adjustment of CONTRAST.
• Set VIDEO STATUS to “STANDARD”.

[Method of adjustment using measuring instrument]
1. Input the full field color bar signal (75% white).
2. Select the No.4 TINT of the PICTURE MODE.
3. Set the initial setting value of the No.4 TINT with the LEFT/RIGHT key to the remote control unit.
4. Connect the oscilloscope between TP-B and TP-E.
5. Adjust TINT and bring the value of (B) in the illustration to the voltage shown in the table 2.</td></tr>
</table>



Model	A (Vw-B)
AV-27D502/AR	+7V
AV-27D502/AS	+6V

Table 1

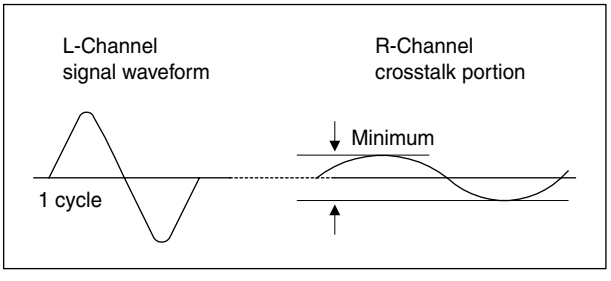


Model	B (Vw-Mg)
AV-27D502/AR	+13V
AV-27D502/AS	+9V

Table 2

ADJUSTMENT OF MTS CIRCUIT

Item	Measuring instrument	Test point	Adjustment part	Description
MTS INPUT LEVEL check	**Remote control unit**		**No.2 IN LEVEL**	1. Select the No.2 IN LEVEL of the SOUND MODE. 2. Verify that the No.2 IN LEVEL is set at its initial setting value.
MTS STEREO VCO adjustment	**Signal generator** **Frequency counter** **Remote control unit**	**2 pin AUDIO R** **3 pin GND** **[MPX Connector in AV SELECTOR PWB]**	**No.3 FH MONITOR** **No.4 STEREO VCO**	**Note:** Menu "MTS" is set to "STEREO" 1. Receive a RF signal (non modulated sound signal) from the antenna terminal. 2. Select the No.3 FH MONITOR of SOUND MODE, and change the setting value from 0 to 1. 3. Connect the Frequency Counter to pin 2 of [MPX] connector and GND (Pin 3 of [MPX] connector). 4. Select the No.4 STEREO VCO. 5. Set the initial setting value of the No.4 STEREO VCO with the LEFT/RIGHT key of the remote control unit. 6. Adjust the No.4 STEREO VCO so that the frequency counter will display 15.73kHz±0.1kHz. 7. Select the No.3 FH MONITOR of the SOUND MODE, and reset the setting value from 1 to 0.
MTS SAP VCO adjustment	**Signal generator** **Frequency counter** **Remote control unit**	**4 pin TP_952.5** **3 pin GND** **2 pin AUDIO_R** **[MPX Connector in AV SELECTOR PWB]**	**No.9 5FH MON.** **No.10 SAP VCO**	1. Receive a RF signal (non modulated sound signal) from the antenna terminal. 2. Connect between pin 4 of [MPX] connector and GND (Pin 3 of [MPX] connector) through 1MΩ Resistor. 3. Select the No.9 5FH MON. of the SOUND MODE, and reset the setting value from 0 to 1. 4. Connect the Frequency Counter to pin 2 of [MPX] connector and GND (Pin 3 of [MPX] connector) . 5. Select the No.10 SAP VCO. 6. Set the initial setting value of the No.10 SAP VCO with the LEFT/RIGHT key of the remote control unit. 7. Adjust the No.10 SAP VCO so that the frequency counter will display 78.67kHz±0.5kHz. 8. Select the No.9 5FH MON. of the SOUND MODE, and reset the setting value from 1 to 0.
MTS FILTER check	**Remote control unit**		**No.6 FILTER**	1. Select the No.6 FILTER of the SOUND MODE. 2. Verify that the No.6 FILTER is set at its initial setting value.
MTS SEPARATION adjustment	**TV audio multiplex signal generator** **Remote control unit** **Oscilloscope**	**1 pin AUDIO_L** **2 pin AUDIO_R** **3 pin GND** **[MPX Connector in AV SELECTOR PWB]**	**No.7 LOW SEP.** **No.8 HI SEP.**	**Note:** Menu "MTS" is set to "STEREO" 1. Input a stereo L signal (300Hz) from the TV audio multiplex signal generator to the antenna terminal. 2. Connect an oscilloscope to pin 1 of [MPX] connector, and display one cycle portion of the 300Hz signal. 3. Change the connection of the oscilloscope to pin 2 of [MPX] connector, and enlarge the voltage axis. 4. Select the No.7 LOW SEP. of the SOUND MODE. 5. Set the initial setting value of the No.7 LOW SEP. with the LEFT/RIGHT key of the remote control unit. 6. Adjust the No.7 LOW SEP. so that the 300Hz signal level will become minimum. 7. Change the signal to 3kHz, and connect an oscilloscope to pin 1 of [MPX] connector. 8. Adjust the No.8 HI SEP. so that the 3kHz signal level will become minimum.



HOW TO CHECK THE HIGH VOLTAGE HOLD DOWN CIRCUIT

1. HIGH VOLTAGE HOLD DOWN CIRCUIT

After repairing the high voltage hold down circuit shown in Fig. 1.
This circuit shall be checked to operate correctly.

2. CHECKING OF THE HIGH VOLTAGE HOLD DOWN CIRCUIT

(1) Turn the POWER SW ON.
(2) As shown in Fig. 1, set the resistor (between S1 connector 1 & 3).
(3) Make sure that the screen picture disappears.
(4) Temporarily unplug the power cord.
(5) Remove the resistor (between S1 connector 1 & 3).
(6) Again plug the power cord, make sure that the normal picture is displayed on the screen.

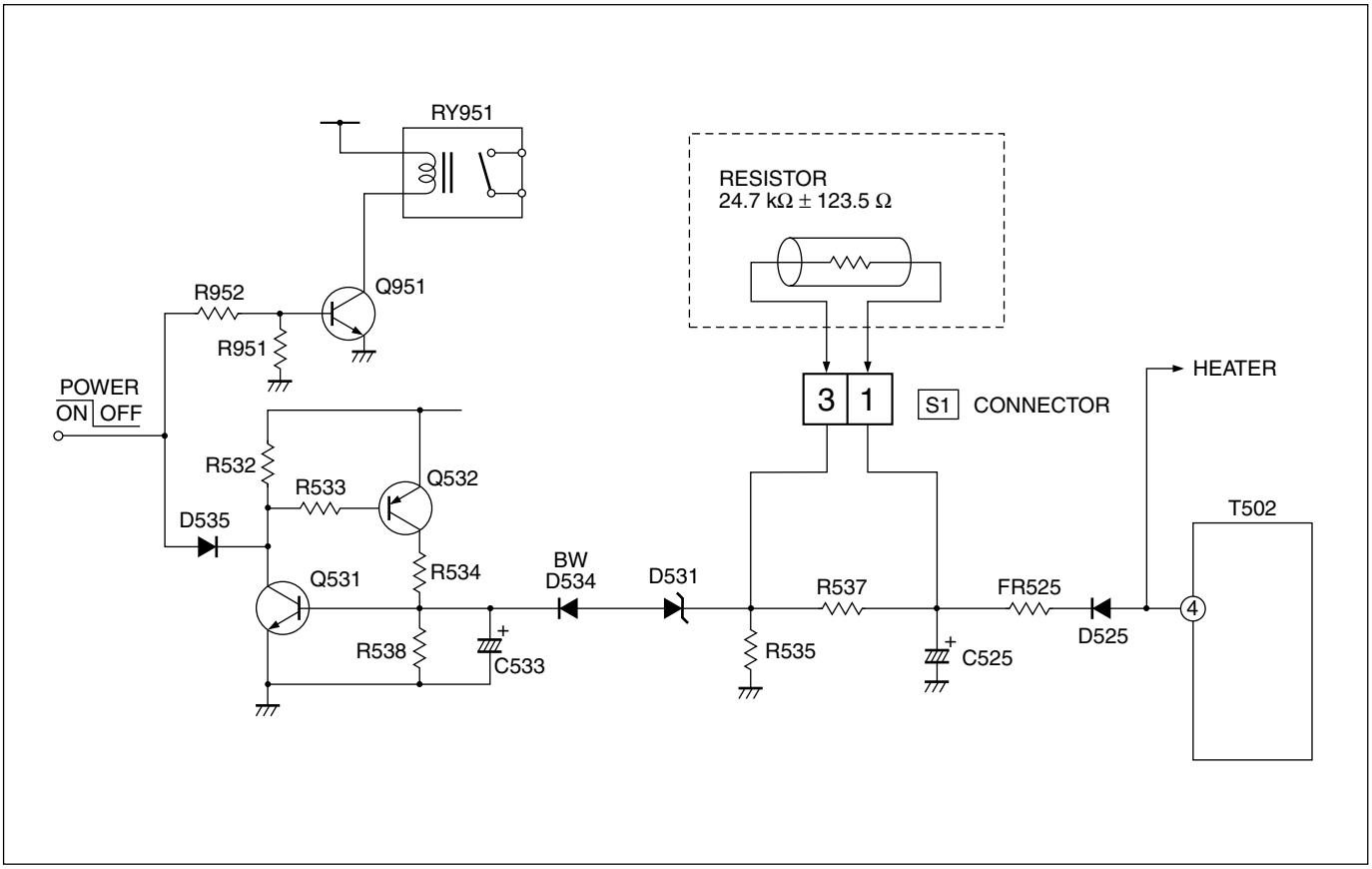


Fig. 1

SELF CHECK FUNCTIONS

1. Outline

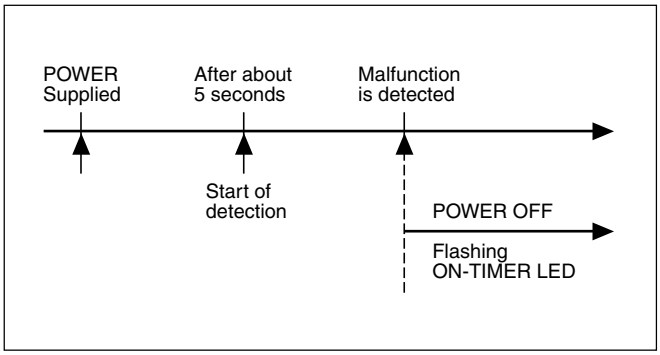
This model has self check functions given below. When a malfunction has been detected, the POWER is turned off and the LED flashes to inform of the failure . The malfunction is detected by the signal input state of the control line connected to the microcomputer.

2. Self check items

Check item	Details of detection	Method of detection	State of malfunction
Over-current protector	Operation of B1 protector circuit.	The microcomputer detects at 1 second intervals. If NG is detected for more than 200 ms, a malfunction is interpreted.	When a malfunction has been detected, the POWER is turned off. While the POWER is being turned off , the power key of the remote controller is not operational until the power code is taken out and put in again.

3. Self check indicating function

The self-check function begins detection about 5 seconds after power is supplied.
In the event a malfunction is detected, the power is cut off immediately.
At this time, the ON-TIMER LED flashes to inform of the malfunction.



[ON-TIMER LED indication]
The ON-TIMER LED flashes at 0.5 seconds intervals.

JVC SERVICE & ENGINEERING COMPANY OF AMERICA

DIVISION OF JVC AMERICAS CORP.

Head office	:	1700 Valley Road, Wayne, New Jersey 07470	(973)317-5000
East Coast	:	10 New Maple Avenue, Pine Brook, New Jersey 07058	(973)396-1000
Midwest	:	705 Enterprise St. Aurora, Illinois 60504	(630)851-7855
West Coast	:	5665 Corporate Avenue, Cypress, California 90630	(714)229-8011
Southwest	:	10700 Hammerly, Suite 105, Houston, Texas 77043	(713)935-9331
Hawaii	:	2969 Mapunapuna Place, Honolulu, Hawaii 96819	(808)833-5828
Southeast	:	1500 Lakes Parkway, Lawrenceville, Georgia 30243	(770)339-2582

JVC CANADA INC.

Head office	:	21 Finchdene Square Scarborough, Ontario M1X 1A7	(416)293-1311
Vancouver	:	13040 Worster Court Richmond B.C. V6V 2B3	(604)270-1311

JVC®

AV27D502AR-UCM #4
AV27D502AS-UCM #4

Printed in Japan
VP0112
SW

PARTS LIST

CAUTION

- The parts identified by the ⚠ symbol are important for the safety . Whenever replacing these parts, be sure to use specified ones to secure the safety .
- The parts not indicated in this Parts List and those which are filled with lines --- in the Parts No. columns will not be supplied .
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied .

ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
HV R	High Voltage Resistor	MF CAP.	Metalized Film Capacitor
MF R	Metal Film Resistor	MM CAP.	Metalized Mylar Capacitor
MG R	Metal Glazed Resistor	MP CAP.	Metalized Polystyrol Capacitor
MP R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
OM R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

RESISTORS									
F	G	J	K	M	N	R	H	Z	P
±1%	±2%	±5%	±10%	±20%	±30%	+30% -10%	+50% -10%	+80% -20%	+100% 0%

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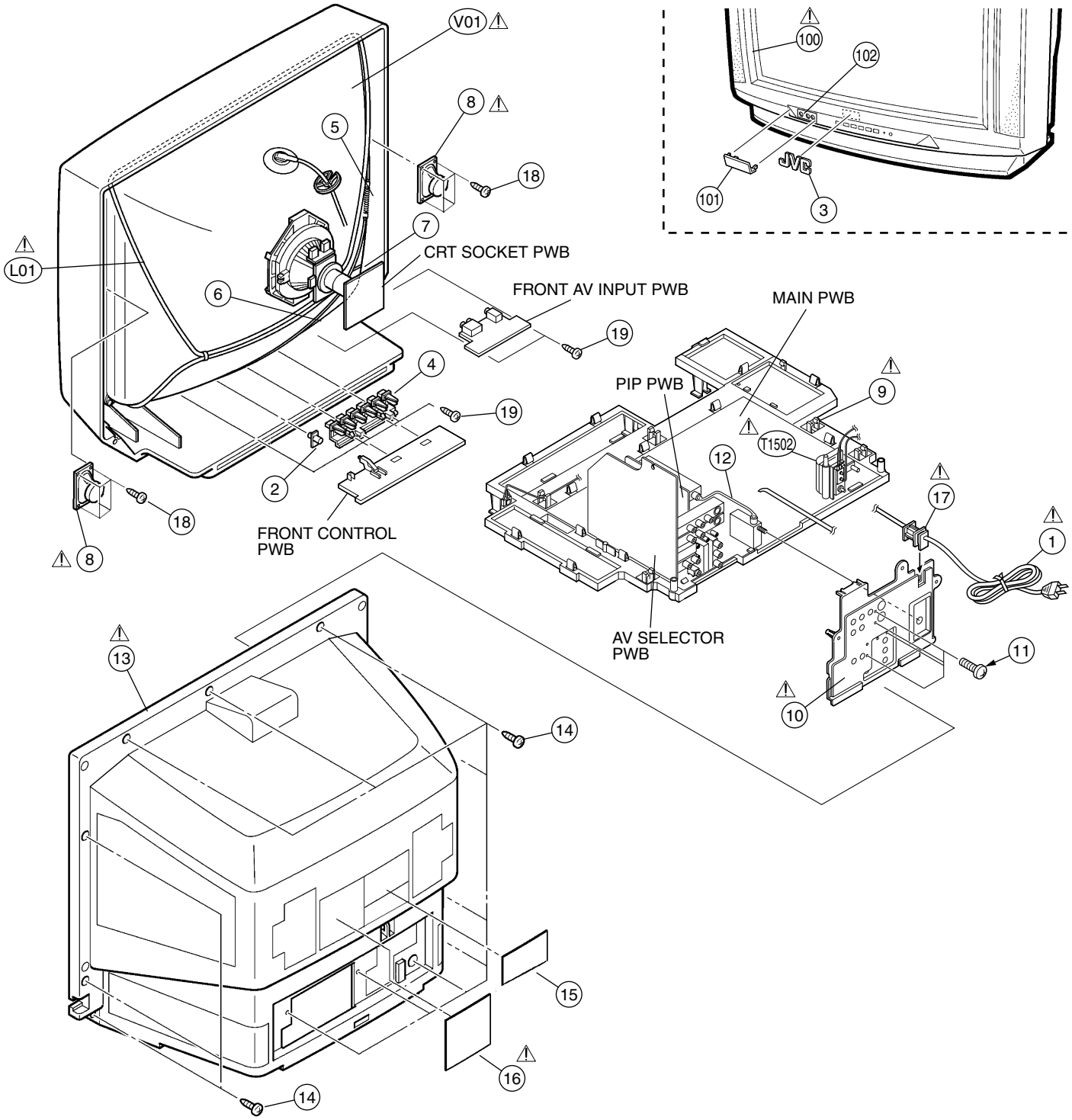
USING P.W. BOARD & REMOTE CONTROL UNIT

P.W.B ASS'Y \ Model	AV-27D502/AR	AV-27D502/AS
MAIN PW BOARD	SGC-1002A-M2	SGC-1001A-M2
CRT SOCKET PW BOARD	SGC-3002A-M2	SGC-3001A-M2
FRONT CONTROL PW BOARD	SGC-8501A-M2	←
FRONT AV INPUT PW BOARD	SGC-8601A-M2	←
PIP PW BOARD	SGC0P001A-M2	←
AV SELECTOR PW BOARD	SGC0S001A-M2	←
REMOTE CONTROL UNIT	RM-C301G-2A	←

EXPLODED VIEW PARTS LIST

⚠	Ref.No.	Part No.	Part Name	Description	Local
⚠	L01	CE41329-00DJB	DEG COIL		
⚠	T1502	QQH0100-001	FBT	Within MAIN PWB	
⚠	V01	A68ADT25X01	CRT	Inc. DY(AV-27D502/AR)	
⚠	V01	A68QDN891X001	CRT	Inc. DY(AV-27D502/AS)	
⚠	1	QMPD200-200-JC	POWER CORD	CN10PW Within MAIN PWB	
	2	LC30191-002A-A	REMOCON WINDOW		
	3	CM48006-007-C	JVC MARK		
	4	LC20217-005B-A	CONTROL KNOB		
	5	A48457-4-S	SPRING		
	6	WJY0016-001A	BRAIDED WIRE		
	7	WJY0013-004A	BRAIDED WIRE		
⚠	8	CEBSS12D-04KJ2	SPEAKER	(x2) SP01, SP02	
⚠	9	LC10883-001C-A	CHASSIS BASE		
⚠	10	LC20899-003A-A	TERMINAL BOARD		
	11	QYSBSB3010Z	TAPPING SCREW	(x4)	
	12	WJX0014-002A	E-COAXIAL ASSY		
⚠	13	LC10277-003A-A	REAR COVER	(AV-27D502/AR)	
⚠	13	LC10277-003B-A	REAR COVER	(AV-27D502/AS)	
	14	QYSBSFG4016Z	TAPPING SCREW	(x12)	
	15	LC30684-005A-A	BBE LABEL	(AV-27D502/AR)	
⚠	16	LC31139-001A-A	RATING LABEL	(AV-27D502/AR)	
⚠	16	GQ30032-001A-A	RATING LABEL	(AV-27D502/AS)	
⚠	17	LC20106-001D-A	CORD CLAMP		
	18	QYSBSB4012Z	TAPPING SCREW	(x8)	
	19	QYSBSBG3010Z	TAPPING SCREW	(x5)	
⚠	100	LC10964-002B-A	FRONT CABI ASSY	Inc. No. 101-102 (AV-27D502/AR)	
⚠	100	LC10964-002C-A	FRONT CABI ASSY	Inc. No. 101-102 (AV-27D502/AS)	
	101	LC20409-005A-A	DOOR	(AV-27D502/AR)	
	101	LC20409-005B-A	DOOR	(AV-27D502/AS)	
	102	CM48229-00A-C	DOOR LATCH	(AV-27D502/AR)	
	102	PU60109	CATCHER	(AV-27D502/AS)	

EXPLODED VIEW



PRINTED WIRING BOARD PARTS LIST (AV-27D502/AR)

MAIN PW BOARD ASS'Y(SGC-1002A-M2)

RESISTOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
	R1001	NRSA63J-473X	MG R	47kΩ 1/16W	J
	R1002	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1003-04	NRSA63J-221X	MG R	220Ω 1/16W	J
	R1011	NRSA63J-820X	MG R	82Ω 1/16W	J
	R1012	NRSA63J-182X	MG R	1.8kΩ 1/16W	J
	R1013	NRSA63J-562X	MG R	5.6kΩ 1/16W	J
	R1014	QRE121J-101Y	C R	100Ω 1/2W	J
	R1015	NRSA63J-180X	MG R	18Ω 1/16W	J
	R1016	NRSA63J-270X	MG R	27Ω 1/16W	J
	R1018	NRSA63J-104X	MG R	100kΩ 1/16W	J
	R1020	NRSA63J-332X	MG R	3.3kΩ 1/16W	J
	R1021	NRSA63J-123X	MG R	12kΩ 1/16W	J
	R1022	NRSA63J-151X	MG R	150Ω 1/16W	J
	R1023	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1024	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1025	NRSA63J-561X	MG R	560Ω 1/16W	J
	R1026	NRSA63J-331X	MG R	330Ω 1/16W	J
	R1028	NRSA63J-821X	MG R	820Ω 1/16W	J
	R1038	NRSA63J-272X	MG R	2.7kΩ 1/16W	J
	R1041	NRSA63J-272X	MG R	2.7kΩ 1/16W	J
	R1042-43	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1047	NRSA63J-153X	MG R	15kΩ 1/16W	J
	R1048	NRSA63J-154X	MG R	150kΩ 1/16W	J
	R1101-02	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1111	NRSA63J-105X	MG R	1MΩ 1/16W	J
	R1131	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1134	NRSA63J-562X	MG R	5.6kΩ 1/16W	J
	R1135-39	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1140	NRSA63J-562X	MG R	5.6kΩ 1/16W	J
	R1201	NRSA63J-333X	MG R	33kΩ 1/16W	J
	R1231	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1237	NRSA63J-392X	MG R	3.9kΩ 1/16W	J
	R1238	NRSA63J-473X	MG R	47kΩ 1/16W	J
	R1241	NRSA63J-332X	MG R	3.3kΩ 1/16W	J
	R1243	NRSA63J-152X	MG R	1.5kΩ 1/16W	J
	R1281	NRSA63J-182X	MG R	1.8kΩ 1/16W	J
	R1282	NRSA63J-392X	MG R	3.9kΩ 1/16W	J
	R1283	NRSA63J-681X	MG R	680Ω 1/16W	J
	R1286	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R1287	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1288	NRSA02J-471X	MG R	470Ω 1/10W	J
	R1289	NRSA63J-154X	MG R	150kΩ 1/16W	J
	R1290	NRSA02J-561X	MG R	560Ω 1/10W	J
	R1292	NRSA63J-124X	MG R	120kΩ 1/16W	J
	R1293	NRSA63J-224X	MG R	220kΩ 1/16W	J
	R1294	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1295	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1301-03	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1304-06	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1354-55	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1356	NRSA63J-123X	MG R	12kΩ 1/16W	J
	R1359	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1360	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1421	NRSA63J-822X	MG R	8.2kΩ 1/16W	J
	R1423-24	NRSA63J-393X	MG R	39kΩ 1/16W	J
	R1426	NRSA63J-183X	MG R	18kΩ 1/16W	J
	R1427	QRT029J-1R0	MF R	1.0Ω 2W	J
	R1429	NRSA63J-272X	MG R	2.7kΩ 1/16W	J
	R1430	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1431	NRSA63J-152X	MG R	1.5kΩ 1/16W	J
	R1432	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1433	NRSA63J-681X	MG R	680Ω 1/16W	J
	R1434	QRL029J-181	OM R	180Ω 2W	J
	R1435	QRE121J-102Y	C R	1kΩ 1/2W	J
	R1441-42	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1444	NRSA63J-183X	MG R	18kΩ 1/16W	J
	R1445	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1501	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1502	NRSA63J-271X	MG R	270Ω 1/16W	J
	R1503	QRE121J-103Y	C R	10kΩ 1/2W	J
	R1504	QRL039J-102	OM R	1kΩ 3W	J
	R1505	QRL039J-122	OM R	1.2kΩ 3W	J

RESISTOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
	R1511	QRE121J-220Y	C R	22Ω 1/2W	J
	R1512	QRE121J-681Y	C R	680Ω 1/2W	J
⚠	R1523	QRJ146J-333X	C R	33kΩ 1/4W	J
⚠	R1525	QRZ9011-470	F R	47Ω 1/2W	J
	R1526	QRE121J-272Y	C R	2.7kΩ 1/2W	J
	R1527-28	QRE121J-184Y	C R	180kΩ 1/2W	J
	R1529	NRSA63J-331X	MG R	330Ω 1/16W	J
⚠	R1531	QRJ146J-391X	C R	390Ω 1/4W	J
	R1532	NRSA63J-273X	MG R	27kΩ 1/16W	J
	R1533-34	NRSA63J-123X	MG R	12kΩ 1/16W	J
⚠	R1535	NRVA02D-242X	MF R	2.4kΩ 1/10W	D
⚠	R1537	NRZ0032-7151X	MF R	7.15kΩ 1/10W	±0.5%
	R1538	NRSA63J-333X	MG R	33kΩ 1/16W	J
	R1601-03	NRSA63J-750X	MG R	75Ω 1/16W	J
	R1610-12	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1621	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1622	NRSA63J-221X	MG R	220Ω 1/16W	J
	R1623	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1624	NRSA63J-221X	MG R	220Ω 1/16W	J
	R1626-27	NRSA63J-223X	MG R	22kΩ 1/16W	J
	R1631	NRSA63J-333X	MG R	33kΩ 1/16W	J
	R1632	NRSA63J-223X	MG R	22kΩ 1/16W	J
	R1634	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1700-02	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1704-05	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R1706-07	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1708-09	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1714	NRSA63J-823X	MG R	82kΩ 1/16W	J
	R1715	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1721-22	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1724	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1726	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1728	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1729	NRSA63J-223X	MG R	22kΩ 1/16W	J
	R1731-32	NRSA63J-101X	MG R	100Ω 1/16W	J
	R1733-34	NRSA63J-562X	MG R	5.6kΩ 1/16W	J
	R1737	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1738	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1739	NRSA63J-272X	MG R	2.7kΩ 1/16W	J
	R1740	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1741	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1742-43	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1745	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1749-51	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1752	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1753	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1754	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1755	NRSA63J-153X	MG R	15kΩ 1/16W	J
	R1756	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1763	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1764-68	NRSA63J-221X	MG R	220Ω 1/16W	J
	R1769	NRSA63J-682X	MG R	6.8kΩ 1/16W	J
	R1772	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1775	NRSA63J-473X	MG R	47kΩ 1/16W	J
	R1776	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1793-95	NRSA63J-331X	MG R	330Ω 1/16W	J
	R1798-99	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1800	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1806	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1807	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R1810	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1811	NRSA63J-473X	MG R	47kΩ 1/16W	J
	R1812	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R1814	NRSA63J-104X	MG R	100kΩ 1/16W	J
	R1815	NRSA63J-154X	MG R	150kΩ 1/16W	J
	R1816	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1817	NRSA63J-104X	MG R	100kΩ 1/16W	J
	R1818	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R1821	NRSA63J-104X	MG R	100kΩ 1/16W	J
	R1822	NRSA63J-124X	MG R	120kΩ 1/16W	J
	R1824	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R1827	NRSA63J-102X	MG R	1kΩ 1/16W	J

⚠	Symbol No.	Part No.	Part Name	Description		Local
RESISTOR						
	R1856	QRX039J-6R8	MF R	6.8Ω	3W	J
⚠	R1857	QRL029J-270	OM R	27Ω	2W	J
⚠	R1858	QRL029J-180	OM R	18Ω	2W	J
⚠	R1901	QRF074K-R47	UNF R	0.47Ω	7W	K
⚠	R1909	QRG01GJ-470	OM R	47Ω	1W	J
	R1911	QRE121J-223Y	C R	22kΩ	1/2W	J
	R1912-13	QRT029J-R22	MF R	0.22Ω	2W	J
	R1914	QRK126J-681X	C R	680Ω	1/2W	J
	R1915	QRE121J-6R8Y	C R	6.8Ω	1/2W	J
⚠	R1917	QRK126J-332X	C R	3.3kΩ	1/2W	J
	R1918	QRE121J-222Y	C R	2.2kΩ	1/2W	J
	R1919	QRE121J-684Y	C R	680kΩ	1/2W	J
	R1924	QRE121J-222Y	C R	2.2kΩ	1/2W	J
	R1930	QRE121J-223Y	C R	22kΩ	1/2W	J
	R1939	QRT039J-2R2	MF R	2.2Ω	3W	J
	R1940	QRE121J-181Y	C R	180Ω	1/2W	J
	R1941	QRL029J-183	OM R	18kΩ	2W	J
	R1951	NRSA63J-473X	MG R	47kΩ	1/16W	J
	R1952	NRSA63J-102X	MG R	1kΩ	1/16W	J
	R1953	QRE121J-820Y	C R	82Ω	1/2W	J
	R1973	QRE121J-272Y	C R	2.7kΩ	1/2W	J
	R1975	QRE121J-223Y	C R	22kΩ	1/2W	J
	R1977	QRE121J-473Y	C R	47kΩ	1/2W	J
	R1978	NRSA63J-333X	MG R	33kΩ	1/16W	J
	R1979	QRT029J-1R2	MF R	1.2Ω	2W	J
	R1980	QRT029J-1R2	MF R	1.2Ω	2W	J
⚠	R1998	QRZ9041-275	C R	2.7MΩ	1/2W	K
	R1999	QRE121J-121Y	C R	120Ω	1/2W	J
CAPACITOR						
	C1001	QETN1HM-475Z	E CAP.	4.7µF	50V	M
	C1002	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1003	QETN1CM-108Z	E CAP.	1000µF	16V	M
	C1011-12	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1013	NDC31HJ-151X	C CAP.	150pF	50V	J
	C1014	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1015-16	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1021	QFV71HJ-824Z	MF CAP.	0.82µF	50V	J
	C1023	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1024	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1025	NCB31HK-102X	C CAP.	1000pF	50V	K
	C1026	QETN1HM-474Z	E CAP.	0.47µF	50V	M
	C1027	NCB21HK-104X	C CAP.	0.1µF	50V	K
	C1028	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1030	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1034	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1036	QETN1AM-477Z	E CAP.	470µF	10V	M
	C1037	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1038	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1041-42	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1043-44	NDC31HJ-470X	C CAP.	47pF	50V	J
	C1045	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1046	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1047	NDC21HJ-330X	C CAP.	33pF	50V	J
	C1048	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1111	QETN0JM-228Z	E CAP.	2200µF	6.3V	M
	C1112	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1113	QETN1HM-474Z	E CAP.	0.47µF	50V	M
	C1114	QETN1HM-105Z	E CAP.	1µF	50V	M
	C1115	QFV71HJ-104Z	MF CAP.	0.1µF	50V	J
	C1116	NCB31EK-104X	C CAP.	0.1µF	25V	K
	C1134	NDC31HJ-470X	C CAP.	47pF	50V	J
	C1135	NDC31HJ-330X	C CAP.	33pF	50V	J
	C1136	QENC1CM-106Z	E CAP.	10µF	16V	M
	C1151	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1201	NDC31HJ-100X	C CAP.	10pF	50V	J
	C1202	QETN1HM-224Z	E CAP.	0.22µF	50V	M
	C1203	NCB31HK-222X	C CAP.	2200pF	50V	K
	C1233	NDC31HJ-560X	C CAP.	56pF	50V	J
	C1237	NCB31HK-103X	C CAP.	0.01µF	50V	K

⚠	Symbol No.	Part No.	Part Name	Description		Local
CAPACITOR						
	C1281	QFV71HJ-474Z	MF CAP.	0.47µF	50V	J
	C1282	QETN1CM-227Z	E CAP.	220µF	16V	M
	C1283	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1284	QETN1HM-225Z	E CAP.	2.2µF	50V	M
	C1285	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1286	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1287	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1288	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1352	QETN1CM-336Z	E CAP.	33µF	16V	M
	C1354	QFV71HJ-154Z	MF CAP.	0.15µF	50V	J
	C1391	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1392	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1393-95	NCB31EK-104X	C CAP.	0.1µF	25V	K
	C1421	NCB21HK-102X	C CAP.	1000pF	50V	K
	C1422	QFLC1HJ-103Z	M CAP.	0.01µF	50V	J
	C1424	QETN1VM-107Z	E CAP.	100µF	35V	M
	C1425	QETN1VM-477Z	E CAP.	470µF	35V	M
	C1427	QETN1HM-105Z	E CAP.	1µF	50V	M
	C1428	QETM1EM-228	E CAP.	2200µF	25V	M
	C1430	NCB21CK-474X	C CAP.	0.47µF	16V	K
	C1431	QFLC2AK-563Z	M CAP.	0.056µF	100V	K
	C1433	QETN1EM-476Z	E CAP.	47µF	25V	M
	C1434	NDC21HJ-100X	C CAP.	10pF	50V	J
	C1435	NCB21HK-183X	C CAP.	0.018µF	50V	K
	C1501	QCB32HK-151Z	C CAP.	150pF	500V	K
	C1502	QCB32HK-331Z	C CAP.	330pF	500V	K
	C1503	QEHR2CM-105Z	E CAP.	1µF	160V	M
	C1504	QEZ0203-107	E CAP.	100µF	160V	M
	C1507-08	QEM61HK-475Z	E CAP.	4.7µF	50V	K
⚠	C1510	QFZ0196-382	MPP CAP.	3800pF	1.5kVH	±3%
⚠	C1513	QFZ0198-133	MPP CAP.	0.013µF	1.5kVH	±3%
⚠	C1515	QFZ0197-404	MPP CAP.	0.4µF	250V	Z
	C1516	QCB32HK-561Z	C CAP.	560pF	500V	K
	C1521	QETN2EM-106Z	E CAP.	10µF	250V	M
	C1523	QEHR1EM-108Z	E CAP.	1000µF	25V	M
	C1525	QETN1VM-107Z	E CAP.	100µF	35V	M
	C1526	QFV21HJ-824Z	MF CAP.	0.82µF	50V	J
	C1527	QFLC2AJ-103Z	M CAP.	0.01µF	100V	J
	C1531	QCB32HK-102Z	C CAP.	1000pF	500V	K
	C1533	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1601-03	QETN1EM-476Z	E CAP.	47µF	25V	M
	C1609-11	QFV71HJ-104Z	MF CAP.	0.1µF	50V	J
	C1621	NCB31HK-102X	C CAP.	1000pF	50V	K
	C1622	NCF21CZ-105X	C CAP.	1µF	16V	Z
	C1623	NCB31HK-102X	C CAP.	1000pF	50V	K
	C1624	NCF21CZ-105X	C CAP.	1µF	16V	Z
	C1625	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1626	QETN1EM-108Z	E CAP.	1000µF	25V	M
	C1627	QETN1HM-474Z	E CAP.	0.47µF	50V	M
	C1628-29	QETN1EM-108Z	E CAP.	1000µF	25V	M
	C1634	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1700	NCB31HK-102X	C CAP.	1000pF	50V	K
	C1702	NCB31EK-104X	C CAP.	0.1µF	25V	K
	C1703	NDC31HJ-181X	C CAP.	180pF	50V	J
	C1706	QETN1HM-105Z	E CAP.	1µF	50V	M
	C1707	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1710	NCB21EK-683X	C CAP.	0.068µF	25V	K
	C1721	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1722-23	NDC31HJ-390X	C CAP.	39pF	50V	J
	C1724	NDC31HJ-471X	C CAP.	470pF	50V	J
	C1726	NDC21HJ-561X	C CAP.	560pF	50V	J
	C1728	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1800	QETN1EM-107Z	E CAP.	100µF	25V	M
	C1801	NCB31EK-104X	C CAP.	0.1µF	25V	K
	C1802	QETN1CM-107Z	E CAP.	100µF	16V	M
	C1804	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C1807	QETN1HM-106Z	E CAP.	10µF	50V	M
	C1810	QENC1HM-474Z	BP E CAP.	0.47µF	50V	M
	C1811	QENC1HM-105Z	E CAP.	1µF	50V	M
	C1812-13	NCB31HK-102X	C CAP.	1000pF	50V	K
	C1816	NCB31HK-153X	C CAP.	0.015µF	50V	K
	C1853-54	QETN1CM-107Z	E CAP.	100µF	16V	M

⚠	Symbol No.	Part No.	Part Name	Description	Local
	CAPACITOR				
	C1856-57	QETN1CM-107Z	E CAP.	100µF 16V	M
⚠	C1901	QFZ9067-104	MM CAP.	0.1µF	
⚠	C1902	QFZ9067-473	MM CAP.	0.047µF	
⚠	C1904-06	QCZ9054-102	C CAP.	1000pF AC250V	Z
⚠	C1907	QEZ0169-477	E CAP.	470µF 200V	M
⚠	C1908	QCZ9054-102	C CAP.	1000pF AC250V	Z
	C1912	QCZ0340-222	C CAP.	2200pF	
	C1913	QFLC1HJ-471Z	M CAP.	470pF 50V	J
	C1914	QETN1HM-107Z	E CAP.	100µF 50V	M
	C1916	NDC31HJ-331X	C CAP.	330pF 50V	J
	C1917	NCB31HK-182X	C CAP.	1800pF 50V	K
	C1918	NCB21HK-104X	C CAP.	0.1µF 50V	K
	C1919	QFP32GJ-103	PP CAP.	0.01µF 400V	J
	C1931	QEZ0203-107	E CAP.	100µF 160V	M
	C1933	QETN1CM-108Z	E CAP.	1000µF 16V	M
	C1934	NDC31HJ-221X	C CAP.	220pF 50V	J
	C1935	QETN1EM-108Z	E CAP.	1000µF 25V	M
	C1937	QCZ0340-102	C CAP.	1000pF	
	C1938	QETN1CM-477Z	E CAP.	470µF 16V	M
	C1939	QCB32HK-152Z	C CAP.	1500pF 500V	K
	C1941	QCB32HK-102Z	C CAP.	1000pF 500V	K
	C1942	QEHR1HM-105Z	E CAP.	1µF 50V	M
	C1951	QETN1EM-477Z	E CAP.	470µF 25V	M
	C1952	QETN1CM-227Z	E CAP.	220µF 16V	M
	C1971	QETN1CM-107Z	E CAP.	100µF 16V	M
	C1972	QETN1EM-476Z	E CAP.	47µF 25V	M
	C1973	QETN1HM-106Z	E CAP.	10µF 50V	M
⚠	C1997	QCZ9052-102	C CAP.	1000pF AC125V	K
⚠	C1998-99	QCZ9074-103	C CAP.	0.01µF AC125V	M
	TRANSFORMER				
	T1501	CE42034-002	H.DRIVE TRANSF.		
⚠	T1502	QQH0100-001	FBT		
⚠	T1921	QQS0118-001	SW TRANSF		
⚠	T1951	QQT0355-001	POWER TRANSF		
	COIL				
⚠	L1001	QQL244K-560Z	COIL	56µH	K
	L1012	QQLZ014-R39	COIL	0.39µH	
	L1021	QRN143J-0R0X	C R	0.0Ω 1/4W	J
	L1022	QQL244K-220Z	COIL	22µH	K
	L1027	QRN143J-0R0X	C R	0.0Ω 1/4W	J
	L1041	QRN143J-0R0X	C R	0.0Ω 1/4W	J
	L1042	QQL244K-220Z	COIL	22µH	K
	L1101	QQL244K-470Z	COIL	47µH	K
	L1232	QQL244K-560Z	COIL	56µH	K
⚠	L1511	QQR1027-002	LINIARITY COIL		
	L1512	QQLZ027-821	CHOKE COIL	820µH	
⚠	L1521	QQLZ018-560	HEATER CHOKE	56µH	
	L1700	QQL244K-4R7Z	COIL	4.7µH	K
	L1810	QQL244J-100Z	COIL	10µH	J
	L1931	QQL26AK-470Z	COIL	47µH	K
	L1933	QQL26AK-470Z	COIL	47µH	K
	L1940	QQR0582-001Z	BEADS CORE		
	DIODE				
	D1010	MTZJ9.1C-T2	ZENER DIODE		
	D1101-02	MTZJ5.6B-T2	ZENER DIODE		
	D1305-10	1SS133-T2	SI.DIODE		
	D1352	MTZJ9.1C-T2	ZENER DIODE		
	D1353	1SS133-T2	SI.DIODE		
	D1421	1N4003-T2	SI.DIODE		
	D1422	MTZJ75-T2	ZENER DIODE		
	D1424	1SS133-T2	SI.DIODE		

⚠	Symbol No.	Part No.	Part Name	Description	Local
	DIODE				
	D1501	RH3G-F1	SI.DIODE		
⚠	D1502	RU3AM-LFC4	SI.DIODE		
	D1521	RH1S-T3	SI.DIODE		
	D1523	RGP10J-5025-T3	SI.DIODE		
	D1525-26	1SS81-T5	SI.DIODE		
	D1527	1SR124-400A-T2	SI.DIODE		
	D1529	MTZJ5.1C-T2	ZENER DIODE		
⚠	D1531	MA4068N/Z1/-T2	ZENER DIODE		
	D1535	1SS133-T2	SI.DIODE		
	D1537	1SR35-400A-T2	SI.DIODE		
	D1601	MTZJ9.1C-T2	ZENER DIODE		
	D1603	MTZJ9.1C-T2	ZENER DIODE		
	D1606	MTZJ9.1C-T2	ZENER DIODE		
	D1700	MTZJ5.6B-T2	ZENER DIODE		
	D1701	1SS133-T2	SI.DIODE		
	D1703-04	MTZJ5.6B-T2	ZENER DIODE		
	D1716	1SS133-T2	SI.DIODE		
	D1721-22	1SS133-T2	SI.DIODE		
	D1723-24	MTZJ5.6B-T2	ZENER DIODE		
	D1801	1SS133-T2	SI.DIODE		
	D1810	MTZJ5.6B-T2	ZENER DIODE		
	D1811	1SS133-T2	SI.DIODE		
⚠	D1901	GSIB460-S1	BRIDGE DIODE		
	D1910	MA700A-T2	SI.DIODE		
⚠	D1911-13	RGP10J-5025-T3	SI.DIODE		
	D1914	1SS133-T2	SI.DIODE		
	D1915	SARS01-T2	SI.DIODE		
	D1917	MTZJ30A-T2	ZENER DIODE		
	D1918	MTZJ5.1C-T2	ZENER DIODE		
	D1920	1SS133-T2	SI.DIODE		
	D1931	RU30A-F1	SI.DIODE		
	D1933	RU3YX-LFC4	SI.DIODE		
	D1935	RU3YX-LFC4	SI.DIODE		
	D1941	MTZJ33A-T2	ZENER DIODE		
	D1945	MTZJ9.1B-T2	ZENER DIODE		
	D1952-53	1SS133-T2	SI.DIODE		
	D1954-57	1SR35-400A-T2	SI.DIODE		
	D1972	MTZJ15C-T2	ZENER DIODE		
	D1973	1SS133-T2	SI.DIODE		
	TRANSISTOR				
	Q1011	2SC5083/L-P/-T	SI.TRANSISTOR		
	Q1021	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q1024	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q1025	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q1041	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q1131-33	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q1150	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q1232-33	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q1352	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q1431	UN2212-X	DEGI.TRANSISTOR		
	Q1501	2SC4212/Z1/	SI.TRANSISTOR		
⚠	Q1511	2SD2634-YD	SI.TRANSISTOR		
	Q1531	2SC2785/JH/-T	SI.TRANSISTOR		
	Q1532	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q1621	UN2212-X	DEGI.TRANSISTOR		
	Q1622	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q1623	UN2212-X	DEGI.TRANSISTOR		
	Q1700	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q1701	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q1706	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q1711	UN2212-X	DEGI.TRANSISTOR		
	Q1810	UN2213-X	DIGI TRANSISTOR		
	Q1951	2SD1383K/AB/-X	SI.TRANSISTOR		
	Q1971	2SA1208/ST/Z1-T	SI.TRANSISTOR		

⚠	Symbol No.	Part No.	Part Name	Description	Local
	IC				
	IC1101	TB1253AN	I.C(M)		
⚠	IC1421	LA7841	I.C(MONO-ANA)		
	IC1621	LA4485	I.C(MONO-ANA)		
	IC1701	MN1876478JW	I.C(MICRO-COMP)		
	IC1702	AT24C04-GC1	I.C(MEMORY-OTH)	(SERVICE)	
	IC1703	L78LR05E-MA	I.C(MONO-ANA)		
	IC1852	AN7809F	I.C(MONO-ANA)		
	IC1853	AN7805F	I.C(MONO-ANA)		
⚠	IC1911	STR-G6624/F8	I.C(HYBRID)		
⚠	IC1921	SE135N	I.C(HYBRID)		
	OTHERS				
	CF1001	QAX0349-001	CERAMIC FILTER		
	CF1021	QAX0639-001Z	CERAMIC FILTER		
	CF1041	QAX0642-001Z	CERAMIC FILTER		
⚠	CN10PW	QMPD200-200-JC	POWER CORD		
⚠	CP1932	ICP-N70-T	C PROTECTOR		
⚠	CP1936	ICP-N70-T	C PROTECTOR		
⚠	F1901	QMF51U1-5R0-J8	FUSE		
⚠	F1905	QMFZ034-5R0Z-J1	FUSE		
⚠	FC1901	CEMG002-001Z	FUSE CLIP		
⚠	FR1521	QRK129J-150	C R	15Ω 1/2W	J
⚠	FR1523	QRX029J-1R5	MF R	1.5Ω 2W	J
⚠	FR1525	QRZ9017-4R7	F R	4.7Ω 1/4W	J
	J1601	QNN0349-002	PIN JACK		
	J1810	QNS0001-001	JACK		
	K1401	QQR0621-002Z	BEADS CORE		
	K1912	QQR0582-001Z	BEADS CORE		
	K1916-18	QQR0582-001Z	BEADS CORE		
	K1931-33	QQR0582-001Z	BEADS CORE		
	K1935	QQR0582-001Z	BEADS CORE		
	K1941	QQR0621-002Z	BEADS CORE		
	LC1601-03	QQR1199-001	FILTER		
⚠	LF1901	QQR0527-003	LINE FILTER		
⚠	PC1921	TLP421F/D4-GR/	I.C(PH.COUPLER)		
⚠	RY1951	QSK0085-001	RELAY		
	S1421	QSL4A13-C02	LEVER SWITCH		
	SF1011	QAX0324-002	SAW FILTER		
⚠	TH1901	QAD0132-3R0	W-PTC		
⚠	TU1001	QAU0247-001	TUNER		
⚠	VA1901	ERZV10V621CS	VARISTOR		
	W1106	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1213	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1265	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1311	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1331	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1442-43	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1478	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1548-49	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1567	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1572	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1579	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1581	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1609	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1628	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1636	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1653	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1666	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1710	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1716	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1729	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1746	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1762	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1764	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1766	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1773	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1776	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1784	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J

⚠	Symbol No.	Part No.	Part Name	Description	Local
	OTHERS				
	W1795	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1797-98	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1804	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	W1819-21	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	X1201	CE40668-001Z	CRYSTAL		
	X1700	QAX0307-001	CER.RESONATOR		
	Y1002-03	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	Y1800	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	Y1903	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J

CRT SOCKET PW BOARD ASS'Y(SGC-3002A-M2)

⚠	Symbol No.	Part No.	Part Name	Description	Local
	RESISTOR				
	R3354-56	NRSA63J-221X	MG R	220Ω 1/16W	J
	R3357-59	NRSA63J-101X	MG R	100Ω 1/16W	J
	R3360-62	QRZ0111-152	C R	1.5kΩ 1/2W	K
	R3363-65	QRG029J-103	OM R	10kΩ 2W	J
	R3366-68	NRSA63J-182X	MG R	1.8kΩ 1/16W	J
	R3372-74	NRSA63J-221X	MG R	220Ω 1/16W	J
	R3375-77	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R3381	QRE121J-394Y	C R	390kΩ 1/2W	J
	R3391	NRSA63J-152X	MG R	1.5kΩ 1/16W	J
	R3392	NRSA63J-392X	MG R	3.9kΩ 1/16W	J
	R3393-95	NRSA63J-102X	MG R	1kΩ 1/16W	J
	CAPACITOR				
	C3354-55	NDC31HJ-391X	C CAP.	390pF 50V	J
	C3356	NDC31HJ-471X	C CAP.	470pF 50V	J
	C3357	QETN1CM-107Z	E CAP.	100µF 16V	M
⚠	C3382	QCZ0121-102	C CAP.	1000pF 3kV	Z
	C3391	QETN1AM-227Z	E CAP.	220µF 10V	M
	C3392	NDC31HJ-101X	C CAP.	100pF 50V	J
	COIL				
	L3381	QQL244K-101Z	COIL	100µH	K
	DIODE				
	D3391	1SS133-T2	SI.DIODE		
	TRANSISTOR				
	Q3351-53	2SC4544-LB	SI.TRANSISTOR		
	Q3391	2SA933AS/QR/-T	SI.TRANSISTOR		
	OTHERS				
⚠	SK3351	QNZ0537-001	CRT SOCKET		
	W3002	NRSA02J-0R0X	MG R	0.0Ω 1/10W	J

FRONT CONTROL PW BOARD ASS'Y(SGC-8501A-M2)

⚠	Symbol No.	Part No.	Part Name	Description	Local
RESISTOR					
	R8702	NRSA63J-472X	MG R	4.7kΩ 1/16W J	
	R8703	NRSA63J-153X	MG R	15kΩ 1/16W J	
	R8705	NRSA63J-472X	MG R	4.7kΩ 1/16W J	
	R8706	NRSA63J-153X	MG R	15kΩ 1/16W J	
	R8707	NRSA63J-332X	MG R	3.3kΩ 1/16W J	
	R8708	NRSA63J-152X	MG R	1.5kΩ 1/16W J	
	R8709	NRSA63J-561X	MG R	560Ω 1/16W J	
CAPACITOR					
	C8701	QETN1EM-476Z	E CAP.	47µF 25V M	
DIODE					
	D8701	SLR-342VR3F	L.E.D.		
TRANSISTOR					
	Q8701-02	UN2112-X	DIGI TRANSISTOR		
IC					
	IC8701	GP1U281Q	IFR DETECT UNIT		
OTHERS					
		LC30190-001B-A	L.E.D.HOLDER		
	S8701	QSW0619-003Z	PUSH SWITCH	POWER	
	S8702	QSW0619-003Z	PUSH SWITCH	MENU	
	S8703	QSW0619-003Z	PUSH SWITCH	CH-	
	S8704	QSW0619-003Z	PUSH SWITCH	CH+	
	S8705	QSW0619-003Z	PUSH SWITCH	VOL-	
	S8706	QSW0619-003Z	PUSH SWITCH	VOL+	
	W8002	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	

FRONT AV INPUT PW BOARD ASS'Y(SGC-8601A-M2)

⚠	Symbol No.	Part No.	Part Name	Description	Local
RESISTOR					
	R8401	NRSA63J-750X	MG R	75Ω 1/16W J	
	R8402-03	NRSA63J-224X	MG R	220kΩ 1/16W J	
CAPACITOR					
	C8402-03	QETN1HM-105Z	E CAP.	1µF 50V M	
OTHERS					
	J8401	QNN0281-003	PIN JACK		
	J8402	QNN0281-002	PIN JACK		
	J8403	QNN0282-001	PIN JACK		
	LC8401	QQR1199-001	FILTER		
	W8001	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	

PIP PW BOARD ASS'Y(SGC0P001A-M2)

⚠	Symbol No.	Part No.	Part Name	Description	Local
RESISTOR					
	R0001-02	NRSA63J-103X	MG R	10kΩ 1/16W J	
	R0003-04	NRSA63J-101X	MG R	100Ω 1/16W J	
	R0005	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	R0008	NRSA63J-820X	MG R	82Ω 1/16W J	
	R0101	NRSA63J-562X	MG R	5.6kΩ 1/16W J	
	R0102	NRSA63J-182X	MG R	1.8kΩ 1/16W J	
	R0103	QRE121J-101Y	C R	100Ω 1/2W J	
	R0104	NRSA63J-180X	MG R	18Ω 1/16W J	
	R0105	NRSA63J-270X	MG R	27Ω 1/16W J	
	R0111	NRSA63J-224X	MG R	220kΩ 1/16W J	
	R0113	NRSA63J-101X	MG R	100Ω 1/16W J	
	R0114	NRSA63J-331X	MG R	330Ω 1/16W J	
	R0115	NRSA63J-101X	MG R	100Ω 1/16W J	
	R0116	NRSA63J-680X	MG R	68Ω 1/16W J	
	R0117	NRSA63J-273X	MG R	27kΩ 1/16W J	
	R0118	NRSA63J-223X	MG R	22kΩ 1/16W J	
	R0120	NRSA63J-273X	MG R	27kΩ 1/16W J	
	R0121	NRSA63J-103X	MG R	10kΩ 1/16W J	
	R0131	NRSA63J-102X	MG R	1kΩ 1/16W J	
	R0132	NRSA63J-331X	MG R	330Ω 1/16W J	
	R0133	NRSA63J-821X	MG R	820Ω 1/16W J	
	R0134	NRSA63J-561X	MG R	560Ω 1/16W J	
	R0135	NRSA63J-102X	MG R	1kΩ 1/16W J	
	R0161	NRSA63J-332X	MG R	3.3kΩ 1/16W J	
	R0163	NRSA63J-223X	MG R	22kΩ 1/16W J	
	R0171	NRSA63J-103X	MG R	10kΩ 1/16W J	
	R0301	NRSA63J-473X	MG R	47kΩ 1/16W J	
	R0303	NRSA63J-222X	MG R	2.2kΩ 1/16W J	
	R0304	NRSA63J-473X	MG R	47kΩ 1/16W J	
	R0306	NRSA63J-222X	MG R	2.2kΩ 1/16W J	
	R0307	NRSA63J-471X	MG R	470Ω 1/16W J	
	R0309	NRSA63J-102X	MG R	1kΩ 1/16W J	
	R0311	NRSA63J-101X	MG R	100Ω 1/16W J	
	R0313	NRSA63J-101X	MG R	100Ω 1/16W J	
	R0314	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	R0316	NRSA63J-331X	MG R	330Ω 1/16W J	
	R0317	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	R0331	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	R0337	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	R0343	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
CAPACITOR					
	C0001	QETN1HM-475Z	E CAP.	4.7µF 50V M	
	C0003	QETN1HM-106Z	E CAP.	10µF 50V M	
	C0004	QETN1CM-107Z	E CAP.	100µF 16V M	
	C0006	QETN1EM-476Z	E CAP.	47µF 25V M	
	C0010-11	NDC31HJ-100X	C CAP.	10pF 50V J	
	C0101-02	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C0104-05	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C0106	QETN1EM-476Z	E CAP.	47µF 25V M	
	C0107	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C0113-14	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C0116	QFV71HJ-224Z	MF CAP.	0.22µF 50V J	
	C0117	QETN1EM-476Z	E CAP.	47µF 25V M	
	C0118	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C0119	NDC31HJ-681X	C CAP.	680pF 50V J	
	C0120	QETN1HM-474Z	E CAP.	0.47µF 50V M	
	C0124	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C0131	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C0132	NDC31HJ-181X	C CAP.	180pF 50V J	
	C0161	QETN1HM-106Z	E CAP.	10µF 50V M	
	C0168	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C0301-02	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	C0312-13	NDC31HJ-270X	C CAP.	27pF 50V J	
	C0314	QETN1HM-106Z	E CAP.	10µF 50V M	
	C0315	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C0316-18	NCB31EK-104X	C CAP.	0.1µF 25V K	
	C0319	QETN1HM-106Z	E CAP.	10µF 50V M	
	C0320	NCB31HK-103X	C CAP.	0.01µF 50V K	
	C0321	QETN1HM-105Z	E CAP.	1µF 50V M	
	C0322	NCB31HK-103X	C CAP.	0.01µF 50V K	

⚠	Symbol No.	Part No.	Part Name	Description	Local
	CAPACITOR				
	C0323	QETN1HM-106Z	E CAP.	10µF 50V	M
	C0324-25	NCB31HK-103X	C CAP.	0.01µF 50V	K
	C0326	NCB31EK-104X	C CAP.	0.1µF 25V	K
	C0327	QETN1HM-225Z	E CAP.	2.2µF 50V	M
	C0328	NCB31HK-103X	C CAP.	0.01µF 50V	K
	C0329	QETN1HM-225Z	E CAP.	2.2µF 50V	M
	C0330	NCB31HK-103X	C CAP.	0.01µF 50V	K
	C0331	NCB31EK-104X	C CAP.	0.1µF 25V	K
	TRANSFORMER				
	T0111	QQR0907-001	I.F.TRANSFOMER		
	COIL				
	L0001	QQL244K-560Z	COIL	56µH	K
	L0101	QQLZ014-R22	COIL	0.22µH	
	L0113	QQL244K-4R7Z	COIL	4.7µH	K
	L0131	QQL244K-150Z	COIL	15µH	K
	L0302-04	QQL244J-6R8Z	COIL	6.8µH	J
	DIODE				
	D0301	1SS133-T2	SI.DIODE		
	TRANSISTOR				
	Q0101	2SC5083/L-P/-T	SI.TRANSISTOR		
	Q0131	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q0301-03	2SC2412K/QR/-X	SI.TRANSISTOR		
	IC				
	IC0101	M52342SP	I.C(MONO-ANA)		
	IC0301	SDA9389X-X	I.C(DIGI-MOS)		
	OTHERS				
	CF0131	QAX0639-001Z	CERAMIC FILTER		
	SF0101	CE42589-201	SAW FILTER		
⚠	TU0001	QAU0228-001	TUNER		
	W0090-92	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	X0301	QAX0521-001Z	CRYSTAL		
	Y0301-02	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	Y0331-33	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J

AV SELECTOR PW BOARD ASS'Y(SGC0S001A-M2)

⚠	Symbol No.	Part No.	Part Name	Description	Local
	RESISTOR				
	R0081	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R0082	NRSA63J-682X	MG R	6.8kΩ 1/16W	J
	R0083	NRSA63J-153X	MG R	15kΩ 1/16W	J
	R0084	NRSA63J-683X	MG R	68kΩ 1/16W	J
	R0085	NRSA63J-332X	MG R	3.3kΩ 1/16W	J
	R0086	NRSA63J-333X	MG R	33kΩ 1/16W	J
	R0087	NRSA63J-153X	MG R	15kΩ 1/16W	J
	R0088	NRSA63J-152X	MG R	1.5kΩ 1/16W	J

⚠	Symbol No.	Part No.	Part Name	Description	Local
	RESISTOR				
	R0089	NRSA63J-562X	MG R	5.6kΩ 1/16W	J
	R0090	NRSA63J-563X	MG R	56kΩ 1/16W	J
	R0151-54	NRSA63J-223X	MG R	22kΩ 1/16W	J
	R0155	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R0157	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R0159	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R0210	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R0211	NRSA63J-153X	MG R	15kΩ 1/16W	J
	R0212	NRSA63J-333X	MG R	33kΩ 1/16W	J
	R0213	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R0214	NRSA63J-181X	MG R	180Ω 1/16W	J
	R0215	NRSA63J-152X	MG R	1.5kΩ 1/16W	J
	R0216	NRSA63J-182X	MG R	1.8kΩ 1/16W	J
	R0217	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R0218	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R0223	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R0229	NRSA63J-473X	MG R	47kΩ 1/16W	J
	R0230	NRSA63J-223X	MG R	22kΩ 1/16W	J
	R0231	NRSA63J-101X	MG R	100Ω 1/16W	J
	R0232	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R0233	NRSA63J-272X	MG R	2.7kΩ 1/16W	J
	R0234	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R0235-36	NRSA63J-101X	MG R	100Ω 1/16W	J
	R0238	NRSA63J-822X	MG R	8.2kΩ 1/16W	J
	R0239	NRSA63J-123X	MG R	12kΩ 1/16W	J
	R0241	NRSA63J-821X	MG R	820Ω 1/16W	J
	R0242	NRSA63J-474X	MG R	470kΩ 1/16W	J
	R0243-44	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R0251	NRSA63J-471X	MG R	470Ω 1/16W	J
	R0253	NRSA63J-681X	MG R	680Ω 1/16W	J
	R0254-55	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R0258	NRSA63J-101X	MG R	100Ω 1/16W	J
	R0259	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R0261	NRSA63J-101X	MG R	100Ω 1/16W	J
	R0262	NRSA63J-222X	MG R	2.2kΩ 1/16W	J
	R0263	NRSA63J-471X	MG R	470Ω 1/16W	J
	R0265	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R0269-70	NRSA63J-0R0X	MG R	0.0Ω 1/16W	J
	R0331-34	NRSA63J-101X	MG R	100Ω 1/16W	J
	R0371-74	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R0375-76	NRSA63J-333X	MG R	33kΩ 1/16W	J
	R0377-78	NRSA63J-472X	MG R	4.7kΩ 1/16W	J
	R0381	NRSA63J-562X	MG R	5.6kΩ 1/16W	J
	R0382	NRSA63J-223X	MG R	22kΩ 1/16W	J
	R0384-87	NRSA63J-223X	MG R	22kΩ 1/16W	J
	R0391-92	NRSA63J-221X	MG R	220Ω 1/16W	J
	R0393-94	NRSA63J-823X	MG R	82kΩ 1/16W	J
	R0395-96	NRSA63J-221X	MG R	220Ω 1/16W	J
	R0501	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R0502-03	NRSA63J-820X	MG R	82Ω 1/16W	J
	R0504	NRSA63J-750X	MG R	75Ω 1/16W	J
	R0505	NRSA63J-823X	MG R	82kΩ 1/16W	J
	R0506	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R0507	NRSA63J-823X	MG R	82kΩ 1/16W	J
	R0508-09	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R0510-11	NRSA63J-820X	MG R	82Ω 1/16W	J
	R0512	NRSA63J-823X	MG R	82kΩ 1/16W	J
	R0513	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R0514	NRSA63J-823X	MG R	82kΩ 1/16W	J
	R0515	NRSA63J-102X	MG R	1kΩ 1/16W	J
	R0521-22	NRSA63J-152X	MG R	1.5kΩ 1/16W	J
	R0524-25	NRSA63J-182X	MG R	1.8kΩ 1/16W	J
	R0526	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R0527	NRSA63J-273X	MG R	27kΩ 1/16W	J
	R0528	NRSA63J-183X	MG R	18kΩ 1/16W	J
	R0529	NRSA63J-562X	MG R	5.6kΩ 1/16W	J
	R0533-34	NRSA63J-152X	MG R	1.5kΩ 1/16W	J
	R0536-37	NRSA63J-182X	MG R	1.8kΩ 1/16W	J
	R0538	NRSA63J-103X	MG R	10kΩ 1/16W	J
	R0539	NRSA63J-273X	MG R	27kΩ 1/16W	J
	R0540	NRSA63J-183X	MG R	18kΩ 1/16W	J
	R0541	NRSA63J-562X	MG R	5.6kΩ 1/16W	J

⚠	Symbol No.	Part No.	Part Name	Description		Local
RESISTOR						
	R0542	NRSA63J-821X	MG R	820Ω	1/16W	J
	R0543-44	NRSA63J-182X	MG R	1.8kΩ	1/16W	J
	R0546	NRSA63J-273X	MG R	27kΩ	1/16W	J
	R0547	NRSA63J-223X	MG R	22kΩ	1/16W	J
	R0548	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R0549	NRSA63J-471X	MG R	470Ω	1/16W	J
	R0550	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	R0551	NRSA63J-152X	MG R	1.5kΩ	1/16W	J
	R0552	NRSA63J-183X	MG R	18kΩ	1/16W	J
	R0553	NRSA63J-223X	MG R	22kΩ	1/16W	J
	R0554	NRSA63J-183X	MG R	18kΩ	1/16W	J
	R0555	NRSA63J-223X	MG R	22kΩ	1/16W	J
	R0558	NRSA63J-223X	MG R	22kΩ	1/16W	J
	R0559	NRSA63J-562X	MG R	5.6kΩ	1/16W	J
	R0560	NRSA63J-221X	MG R	220Ω	1/16W	J
	R0561	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	R0562	NRSA63J-471X	MG R	470Ω	1/16W	J
	R0565	NRSA63J-223X	MG R	22kΩ	1/16W	J
	R0566	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	R0567	NRSA63J-152X	MG R	1.5kΩ	1/16W	J
	R0568	NRSA63J-183X	MG R	18kΩ	1/16W	J
	R0569	NRSA63J-103X	MG R	10kΩ	1/16W	J
	R0570	NRSA63J-152X	MG R	1.5kΩ	1/16W	J
	R0571	NRSA63J-0R0X	MG R	0.0Ω	1/16W	J
	R0572	NRSA63J-562X	MG R	5.6kΩ	1/16W	J
	R0574	NRSA63J-471X	MG R	470Ω	1/16W	J
CAPACITOR						
	C0081	NCB21HK-104X	C CAP.	0.1µF	50V	K
	C0082	QENC1HM-475Z	BP E CAP.	4.7µF	50V	M
	C0083	QENC1HM-105Z	E CAP.	1µF	50V	M
	C0084	QETN1HM-225Z	E CAP.	2.2µF	50V	M
	C0085	NCB21HK-473X	C CAP.	0.047µF	50V	K
	C0086	QETN1HM-474Z	E CAP.	0.47µF	50V	M
	C0087-88	NCB21HK-104X	C CAP.	0.1µF	50V	K
	C0089	QETN1HM-335Z	E CAP.	3.3µF	50V	M
	C0090	QETN1HM-105Z	E CAP.	1µF	50V	M
	C0091	QETN1HM-106Z	E CAP.	10µF	50V	M
	C0092-93	QETN1HM-105Z	E CAP.	1µF	50V	M
	C0094	QETN1HM-475Z	E CAP.	4.7µF	50V	M
	C0095	QETN1HM-105Z	E CAP.	1µF	50V	M
	C0151-52	QENC1HM-105Z	E CAP.	1µF	50V	M
	C0153-54	NCB31HK-332X	C CAP.	3300pF	50V	K
	C0155-56	NCB21HK-333X	C CAP.	0.033µF	50V	K
	C0157-58	QETN1HM-106Z	E CAP.	10µF	50V	M
	C0159	QETN1EM-476Z	E CAP.	47µF	25V	M
	C0160	NCB21HK-104X	C CAP.	0.1µF	50V	K
	C0205	QETN1HM-476Z	E CAP.	47µF	50V	M
	C0206	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0211	QETN1HM-106Z	E CAP.	10µF	50V	M
	C0212	NDC31HJ-101X	C CAP.	100pF	50V	J
	C0213	NDC31HJ-470X	C CAP.	47pF	50V	J
	C0214	NDC31HJ-181X	C CAP.	180pF	50V	J
	C0215	QETN1HM-474Z	E CAP.	0.47µF	50V	M
	C0223	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0226	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0231-33	QETN1HM-106Z	E CAP.	10µF	50V	M
	C0234	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0235	QETN1HM-106Z	E CAP.	10µF	50V	M
	C0236	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0237	NCB31HK-472X	C CAP.	4700pF	50V	K
	C0238-39	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0241-45	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0246	NDC31HJ-181X	C CAP.	180pF	50V	J
	C0247-49	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0251	QETN1HM-476Z	E CAP.	47µF	50V	M
	C0252	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0253	NRSA63J-222X	MG R	2.2kΩ	1/16W	J

⚠	Symbol No.	Part No.	Part Name	Description		Local
CAPACITOR						
	C0255	NDC31HJ-390X	C CAP.	39pF	50V	J
	C0261	NRSA63J-222X	MG R	2.2kΩ	1/16W	J
	C0263	NDC31HJ-150X	C CAP.	15pF	50V	J
	C0331	QETN1CM-107Z	E CAP.	100µF	16V	M
	C0332	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0333	QETN1EM-476Z	E CAP.	47µF	25V	M
	C0334	NCB21HK-273X	C CAP.	0.027µF	50V	K
	C0335	QETN1HM-225Z	E CAP.	2.2µF	50V	M
	C0336	NCB31HK-222X	C CAP.	2200pF	50V	K
	C0337	NCB21HK-104X	C CAP.	0.1µF	50V	K
	C0338	QETN1HM-225Z	E CAP.	2.2µF	50V	M
	C0339	NCB31HK-222X	C CAP.	2200pF	50V	K
	C0340	NCB21HK-104X	C CAP.	0.1µF	50V	K
	C0343	QETN1HM-105Z	E CAP.	1µF	50V	M
	C0371-72	QENC1HM-105Z	E CAP.	1µF	50V	M
	C0373	QETN1EM-476Z	E CAP.	47µF	25V	M
	C0391-92	QETN1HM-474Z	E CAP.	0.47µF	50V	M
	C0501-03	QETN1HM-106Z	E CAP.	10µF	50V	M
	C0504-05	QETN1HM-105Z	E CAP.	1µF	50V	M
	C0506	QETN1EM-476Z	E CAP.	47µF	25V	M
	C0507	QENC1CM-106Z	E CAP.	10µF	16V	M
	C0508-09	QETN1HM-106Z	E CAP.	10µF	50V	M
	C0510-11	QENC1CM-106Z	E CAP.	10µF	16V	M
	C0512-14	QETN1HM-106Z	E CAP.	10µF	50V	M
	C0515-16	QETN1HM-105Z	E CAP.	1µF	50V	M
	C0518	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0519	QETN1EM-476Z	E CAP.	47µF	25V	M
	C0520	QETN1HM-106Z	E CAP.	10µF	50V	M
	C0521-23	QETN1EM-476Z	E CAP.	47µF	25V	M
	C0524	QENC1CM-106Z	E CAP.	10µF	16V	M
	C0527	NCB31HK-103X	C CAP.	0.01µF	50V	K
	C0528	QETN1EM-476Z	E CAP.	47µF	25V	M
	C0531-32	NCB31HK-103X	C CAP.	0.01µF	50V	K
COIL						
	L0202	QQL244K-150Z	COIL	15µH		K
	L0211	QQL244K-4R7Z	COIL	4.7µH		K
	L0242-43	QQL244K-4R7Z	COIL	4.7µH		K
	L0261	QQL244K-150Z	COIL	15µH		K
DIODE						
	D0391-92	MTZJ9.1C-T2	ZENER DIODE			
	D0501-16	MTZJ9.1C-T2	ZENER DIODE			
TRANSISTOR						
	Q0211-12	2SC2412K/QR/-X	SI.TRANSISTOR			
	Q0218	2SC2412K/QR/-X	SI.TRANSISTOR			
	Q0219	2SA1037AK/QR/-X	SI.TRANSISTOR			
	Q0251	2SC2412K/QR/-X	SI.TRANSISTOR			
	Q0253	2SC2412K/QR/-X	SI.TRANSISTOR			
	Q0261-62	2SC2412K/QR/-X	SI.TRANSISTOR			
	Q0381-82	UN2212-X	DEGI.TRANSISTOR			
	Q0384-87	DTC323TK-X	DIGI.TRANSISTOR			
	Q0501-06	2SC2412K/QR/-X	SI.TRANSISTOR			
	Q0507	2SA1037AK/QR/-X	SI.TRANSISTOR			
	Q0508-09	2SC2412K/QR/-X	SI.TRANSISTOR			
	Q0510-13	UN2212-X	DEGI.TRANSISTOR			
IC						
	IC0001	UPC1851BCU	I.C(MONO-ANA)			
	IC0151	NJM2150AD	I.C(MONO-ANA)			
	IC0201	TC90A53N	I.C(DIGI-MOS)			
	IC0371	BA15218N	I.C(MONO-ANA)			
	IC0381	TC4066BP/N/	I.C(DIGI-MOS)			
	IC0501	BA7644AN	I.C(MONO-ANA)			
	IC0502	BA7649A	I.C(MONO-ANA)			
	IC0503-04	TC4066BP/N/	I.C(DIGI-MOS)			

⚠	Symbol No.	Part No.	Part Name	Description	Local
	OTHERS				
	J0501	QNZ0454-001	PIN JACK		
	J0502	QNZ0531-001	AV JACK		
	J0503	QNN0348-001	PIN JACK		
	W0060	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W0105	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W0116	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W0165	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W0200-01	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W0254	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W0273	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W0275	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W0277-78	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W0284-86	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W0290	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W0292	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W0302	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W0304-06	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W0309	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W0316	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	W0319	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	
	Y0501-06	NRSA63J-0R0X	MG R	0.0Ω 1/16W J	

⚠	Symbol No.	Part No.	Part Name	Description	Local

REMOTE CONTROL UNIT PARTS LIST(RM-C301G-2A)

⚠	Ref.No.	Part No.	Part Name	Description	Local
		UR52EC1286C	BATTERY COVER		

DIFFERENCE PARTS LIST BETWEEN AV-27D502/AR AND AV-27D502/AS

The picture tubes used for the models AV-27D502/AR and AV-27D502/AS are difference. The electrical parts are also difference according to the PICTURE TUBE.
In the DIFFERENCE PARTS LIST BETWEEN AV-27D502/AR and AV-27D502/AS, only difference points between these models are written. For other parts not mentioned in the list, please refer to the PARTS LIST(P34 – P41) for the AV-27D502/AR.

DIFFERENCE PARTS LIST

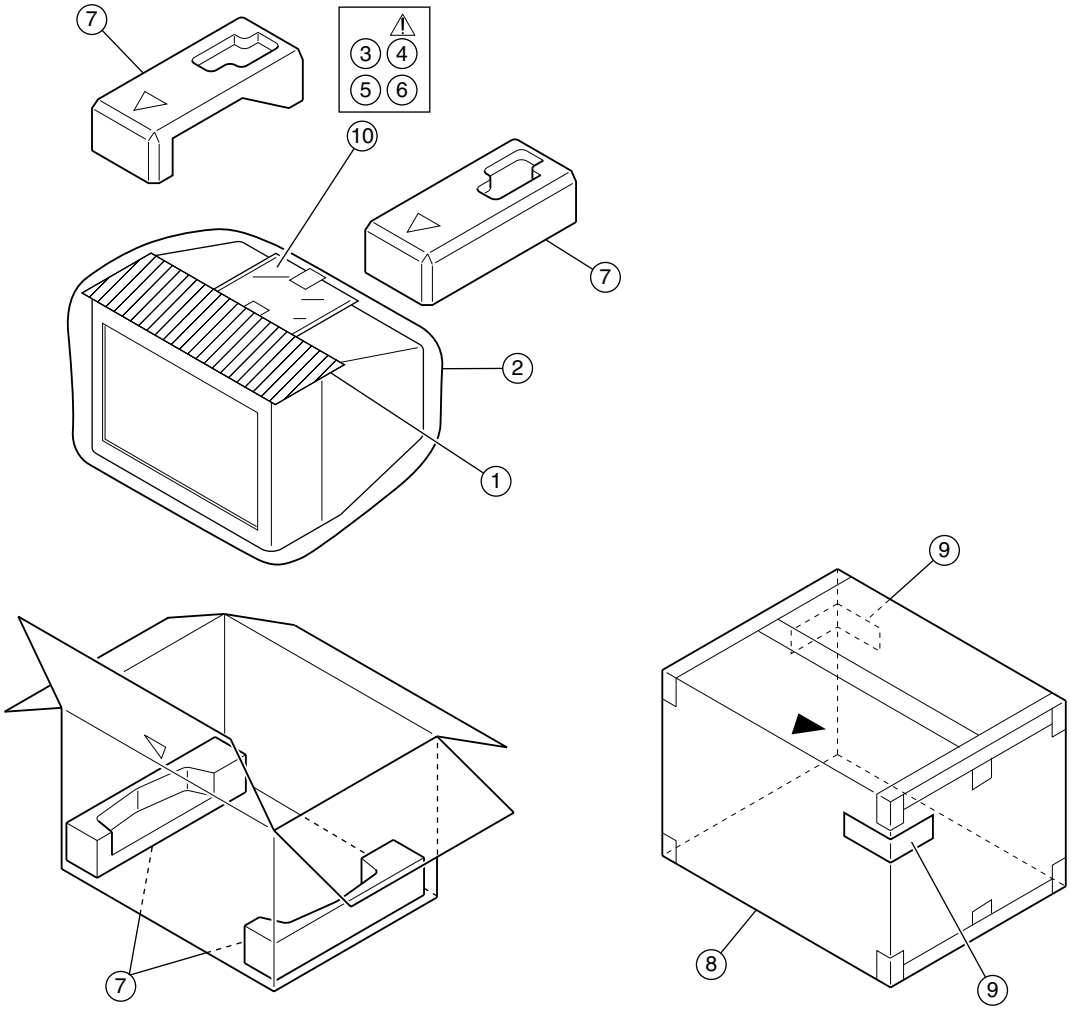
MAIN PWB

⚠	Symbol No.	Part No.		Part Name
		AV-27D502/AR	AV-27D502/AS	
		SGC-1002A-M2	**SGC-1001A-M2**	**MAIN PWB**
	R1427	QRT029J-1RO (1Ω, 2W, J)	QRT029J-R82 (0.82Ω, 2W, J)	MF R
⚠	L1511	QQR1027-002	QQR1027-004	LINIARITY COIL
⚠	L1521	QQLZ018-560 (56μH)	QQLZ026-101 (100μH)	HEATER CHOKE
⚠	C1510	QFZ0196-382 (3800pF,1.5kVH,±3%)	QFZ0196-472 (4700pF,1.5kVH,±3%)	MPP CAP.

CRT SOCKET PWB

⚠	Symbol No.	Part No.		Part Name
		AV-27D502/AR	AV-27D502/AS	
		SGC-3002A-M2	**SGC-3001A-M2**	**CRT SOCKET PWB**

PACKING



PACKING PARTS LIST

⚠	Ref.No.	Part No.	Part Name	Description	Local
	1	CP30055-001-A	TOP COVER		
	2	CP30056-008-A	POLY BAG		
	3	RM-C301G-2A	RC HAND UNIT		
⚠	4	LCT0903-001B-A	INST BOOK		
	5	BT-51020-1Q	REGIST CARD	(AV-27D502/AR)	
	5	BT-51028-1Q	REGIST CARD	(AV-27D502/AS)	
	6	BT-52004-1Q	WARRANTY CARD		
	7	LC10367-002B-A	CUSHION ASSY	4pcs in 1set	
	8	LC10181-020A-A	PACKING CASE		
	9	CM36616-001-A	CORNER LABEL	2pcs in 1set	
	10	QPA02503505	POLY BAG		